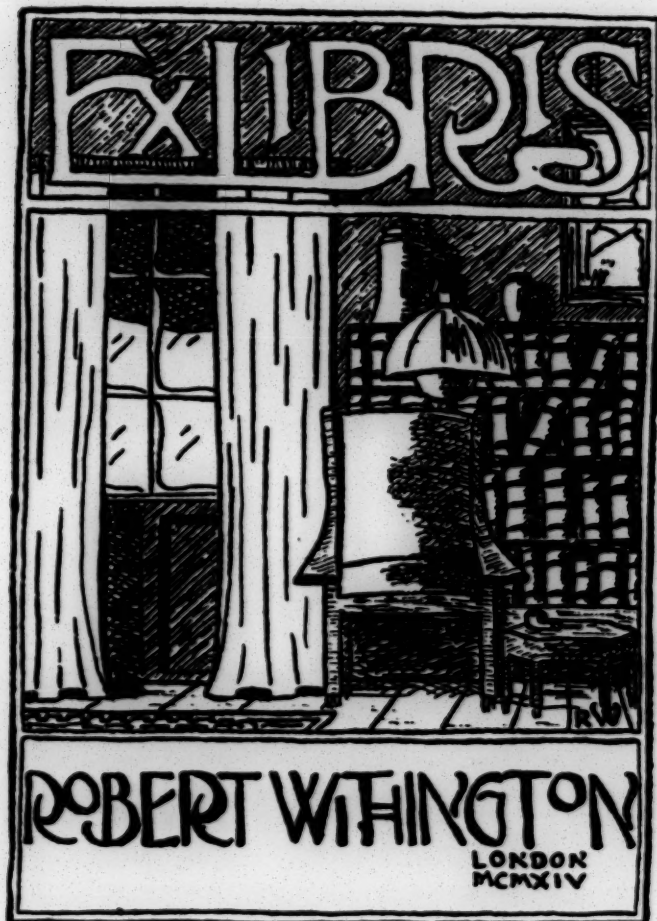


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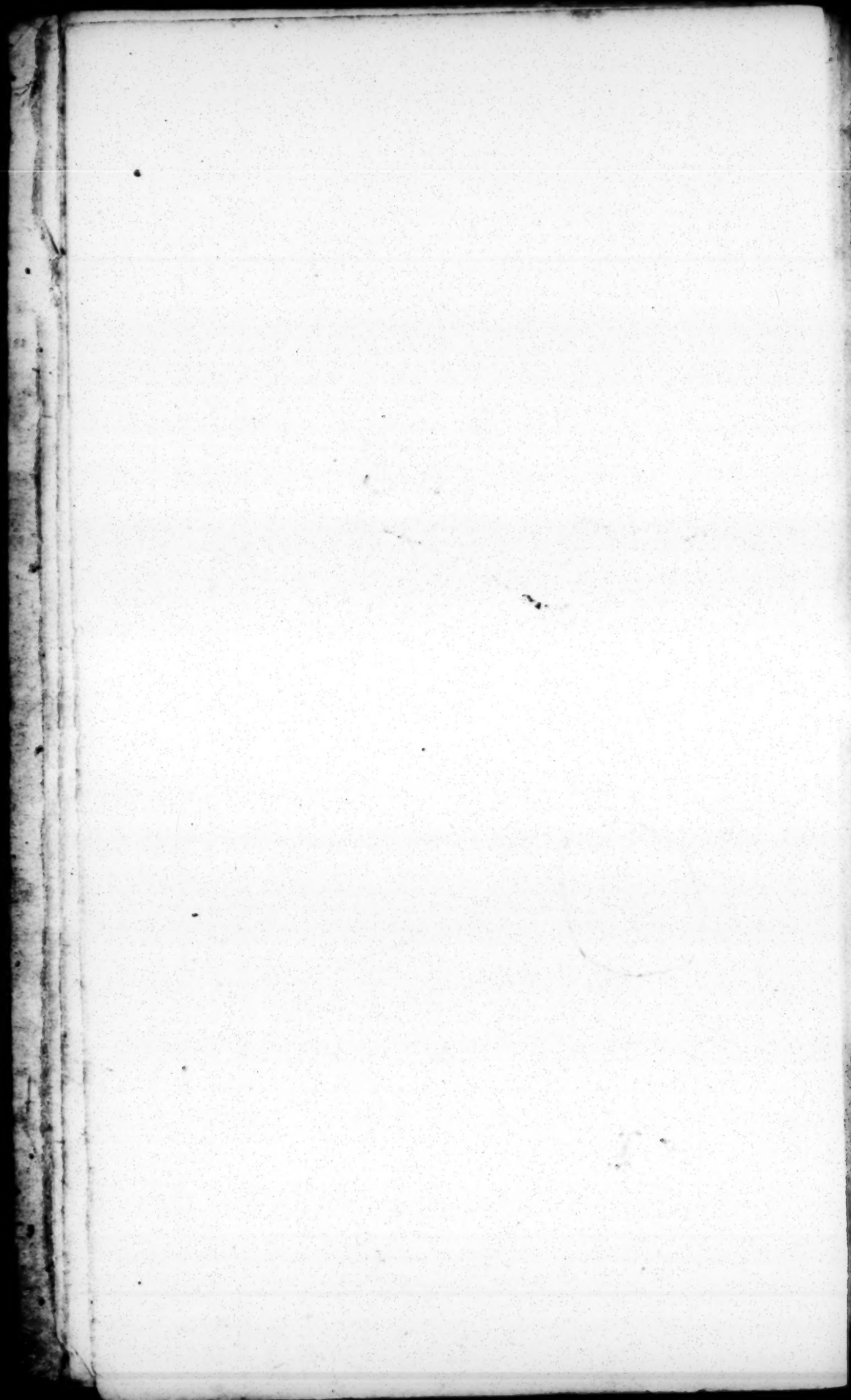
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Reverend Sir





Robert Willington



T H E
Seaman's Vade-mecum,
A N D
Defensive W A R by Sea :

C O N T A I N I N G,

The Proportions of Rigging, Masts and Yards,
Weight of Anchors, Sizes and Weight of
Cables and Cordage. The Exercise of the
Small Arms, Bayonet, Granades and Great-
Guns, Duty of Officers, &c.

A L S O,

Shewing how to prepare a Merchant Ship for a
close Fight, by disposing their Bulk-heads,
Leaves, Comings, Look-holes, &c.

Chasing ; the Advantages to be taken by the Chase
considered under all Positions in Respect to Wind
and Tide.

Defensive-Fighting ; shewing how Merchant-Ships
are to act, whether single or in Fleets, when Can-
nonaded or Boarded by the Enemy.

An Epitome of the Art of Gunnery.

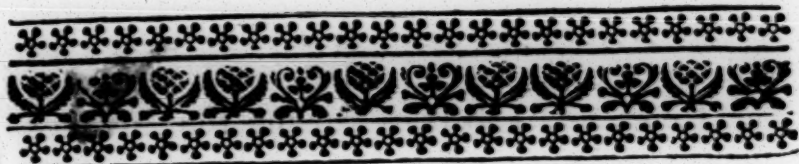
Naval Fortification ; The Advantages of Mooring con-
sidered, in respect to Wind and Tide : How to lay
Booms in straight or crooked Rivers, with many other
Particulars relating to the Navy and Merchant Service.

By WILLIAM MOUNTAINE, Teacher
of the M A T H E M A T I C S.

London : Printed for W. MOUNT and T. PAGE,
on *Tower-Hill*, 1744.



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T H E P R E F A C E.

THAT the Monarchs of *Great-Britain* have a peculiar and sovereign Authority upon the Ocean, is a Right so ancient and undeniable, that it never was publicly disputed, but by *Hugo Grotius* in his *Mare Liberum*, published in the Year 1636, in Favour of the *Dutch* Fishery upon our Coasts; which Book was fully Controverted by Mr. *Selden's Mare Clausum*, wherein he proves this Sovereignty from the Laws of God and of Nature, besides an uninterrupted Fruition of it for so many Ages past, as that its Beginning cannot be traced out.

It is probable enough that this Sovereignty commenced with the first Inhabitants, who soon discovered the great Use of Machines made to float upon the Water, in the easy Conveyance of their Traffic from one Place to another upon the Coasts, as also their singular Service in the Art
A 2
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of Fishing : They would also presently perceive (by the Nature of their Situation) that Those would be the most effectual Bulwarks to defend their Lives and Liberties against the Invasions of any neighbouring Powers ; and it is as probable that (in those primitive Times) they served in the double Capacity of Defence and Trade, and continued in this State, until (by the Encroachments of their Neighbours upon their Trade, and Attempts made upon their Coasts) it was found necessary to fortify and enlarge their Vessels of Defence, and fix them upon another Establishment.

Hence it appears, that the Sovereignty of the Seas and the Trade of this Nation, are of equal Antiquity ; and as they found the Advantages of Trade capable to support their Shipping, so they found the Benefit of Shipping in the Preservation of their Trade ; and thus they have continued Hand in Hand to this Day ; the Influence of which every Man of Business is duly sensible of : For it is our formidable *Navy-Royal*, and our *Maritime Commerce* that render us so considerable in the Eye of the World.

Law is the Preceptrix of every Kingdom, it teaches the Subjects their Duty, and punishes the Guilty ; and the more salutary the Law, the more happy, robust and active the Constitution : Under the Suffrage of National Laws, every Community must be actuated by proper and necessary

cessary Regulations, if not, they can never flourish, but must dwindle, and end in Confusion.

Our *Royal-Navy* being of the greatest Importance to the Kingdom, the Legislature has constantly taken peculiar Care from Time to Time (by the most salubrious Laws) to support and improve its Strength, Lustre and Dignity ; and the Regulations and Instructions relating thereunto, contain at this Time a very great Degree of Perfection : In those every Officer is appriz'd of his Duty, the general Good of the Seamen considered, the Diligent and Obedient encouraged, the Sick and Wounded taken Care of and rewarded, Provision made for the Widows and Orphans of the Meritorious, the Superannuated relieved and provided for, an ultimate Regard exhibited (as appears through all their Precepts) for a due and regular Dispensation of the Stores, and the Rules prescribed, being duly executed, are an absolute and infallible Remedy against Embezzlement.

These Regulations fall into the Hands of very few besides Commission and Warrant-Officers, and for this Reason, I have herein offered a short Review of them, in Hopes that it may be of Service to some who are already, or are about to be concerned in the *Navy*, and a Satisfaction to others who are not so well acquainted in what
Manner

Manner and how regularly the Motion of this great and important Machine is conducted.

The latter Part of these Sheets is designed for the Advantage of *Commercial Navigation*, that is, how Commanders of small Merchantmen, (that run without Convoy, carry but few Hands, and those particularly who have not studied or practiced the Art of *Defensive Sea-Fighting*) may the better act in Time of War, for the Preservation of their Lives, Liberties and Fortunes : And for this I acknowledge myself solely obliged to the ingenious Capt. *Robert Park* of *Ipswich*, who published a Book in the Year 1704. Intituled *Defensive War by Sea*. This Book was very much esteemed, and did not want Purchasers, but at the Conclusion of Peace, the Proprietors did not think it convenient to make a Re-publication : As therefore it was once so well approv'd, I flatter my self that it may (in some Measure) be acceptable at this Time.

I have not directly Re-printed this Author, that would have been too Voluminous, and (I think) unnecessary, but have exhibited his direct Sentiments upon every material Section ; and where I could not convey (according to my own Opinion) his true Meaning by Contraction I have made Use of his own Expressions at large.

Those

P R E F A C E.

ix

Those Sections which I have omitted as less material, are the *Historical Accounts of Sea-Fights*, variously interspersed through the Whole; and (by the Author) are chiefly intended as *Stimula's* to excite the Vertue and Courage of his Fellow Subjects for their own Reputation and the Honour of the Kingdom.

As to his *Fortification*, I have only introduced the *Naval Part*, being the most essential to our Purpose, and for the rest refer those that are desirous to be therewith acquainted, to such Authors who have particularly treated upon this Subject.

Upon the Whole, whatever may be contain'd in the following Sheets worthy of Acceptation, let the meritorious Author (to whom I am oblig'd) have the Honour due: As to my own Part, if they ever may prove an Instrument of Improvement and Promotion to one young Seaman, be a Means of saving the Life but of one Man, or the Preservation of one Ship, it will be an inexpressible Satisfaction, and infinitely compensate for all the Trouble of this Collection.

WILLIAM MOUNTAINE.

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THE CLASSICS, WRITING,
ACCOMPTS, BOOK-KEEPING
after the *Italian* Form, NAVIGA-
TION, ASTRONOMY, the USE of
the GLOBES and other Parts of the
MATHEMATICS are regularly
Taught, and young GENTLEMEN
Boarded, by

William Mountaine,

In *Gainsford-Street*, near *Shad-Thames*,
Southwark.

T H E

S E A - M A N's
V A D E - M E C U M.

A Maritime DICTIONARY;
Or, An Explanation of the most usual Sea-terms, digested into Alphabetical Order.

A

AFT or *Abast*. From the Head or Fore-part of the Ship towards the Stern ; as, *Carry* such a thing *abast* ; *The Mast hangs aft* ; that is, towards the Stern.

How chear ye Fore and Aft ? that is, How fares all the Ship's Company ?

Amain, that is, *Yield* : A Term used by a Man of War to the Enemy.

Strike Amain, Lower your Top-fails.

Aloft, signifies *over-head*, or *above*.

The Anchor is foul ; that is, the Cable is got about the *Fluke*, which is the Flat Point, or Wings that resemble the Head of an Arrow.

The Anchor is a Peck or a Peek ; signifying, that it is directly under the *Hawse* (or Hole) thro' which the Cable of the Anchor runs out.



The

The Anchor is a Cock-Bell ; that is, fwings or hangs up and down by the Ship's Side.

An Awning, is a Shelter or Skreen that's made of a Sail, or such-like, supported in the Nature of a Canopy over the Deck, to keep off the Heat of the Sun.

B

Bale ; that is, Lade Water out of the Ship's Hold.

French the Ballast, to divide or separate it.

The Ballast shoots ; meaning that it shifts or runs over from one Side of the Ship to the other.

To bear with the Land, &c. that is, to sail towards it.

To bear to, viz. To sail unto a Channel or Harbour before or with the Wind.

Bring the Guns (or Ordnance) *to bear* ; that is, Point them right with the Mark.

Bear up ; that is, make the Ship sail more before the Wind.

Bear up round, Put her right before the Wind.

Belay, make fast any running Rope.

Bend the Sails ; that is, fasten or apply them to the Yards.

Her Sails are unbent ; viz. Has no Sails fixed.

Bend a Cable, Make it fast.

A Birth, A convenient Place to moor a Ship in.

A Bight, is any Part of a Rope between the Ends.

The Buge, is the Breadth of the Place the Ship rests on, when she is a-ground.

The Ship is bilged ; that is, has struck off some of her Timber on a Rock or Anchor, and springs a Leak.

A Binacle, is that whereon the Compass stands.

The Bits, are two square Pieces of Timber, to which the Cables are fastened, when the Ship rides at Anchor.

A Bitter, is a Turn of a Cable about the Bits.

A Bonnet, is an Addition of another Sail. To fasten it on, they say, *Lace on the Bonnet*. And to take it off, *Shake off the Bonnet*.

Board and Board, signifies, that two Ships come so near as to touch one another.

To Board a Ship, is to enter it in an hostile manner, or against the Inclination of those in her.

To go aboard, is to enter it by Consent, or in a friendly Manner.

Board it up ; that is, turn to Windward.

To break Bulk, to open the Hold, and take Goods thereout.

A Buoy, is a floating Cask, or such-like, which is moored at a Sand-bank, to warn Shipping against it. Also is used to every Anchor, in Order to shew where the Anchor lies.

C

To Chase, is to pursue another Ship or Vessel ; and the Ship, &c. so pursued, is called *the Chase*.

Careening, is bringing a Ship to lie down on one Side, while the other is trimm'd and caulk'd.

Caulking, is driving Oakham, Spanhair, &c. into the Seams of the Ship, to keep out Water.

To Cond or Cun, is to direct or guide.

To Cun a Ship, is to direct the Person at the Helm how to steer her. If the Ship goes before the Wind, then the Pilot, or he who cuns the Ship uses these Terms to him that steers, according as the Case requires ; viz. *Starboard*, that is, to put the Helm to the *Starboard* (or right) Side, to make the Ship go to the *Larboard* (or left) Side ; and so of the contrary. *Port*, is to keep the same Direction of the Helm upon the *Starboard* or *Larboard*, as has been last ordered. *Helm a Midships*, is to keep the Helm in a right Line with the Ship's Head and Stern, neither inclining to Right or Left.

In keeping the Ship near the Wind, these Terms are used ; viz. *Loof* (or *Luff*) *keep your Luff ; fall not off ; veer no more ; keep her too ; touch the Wind ; have a care of the Lee-Latch.* See Letter L.

To make her go more large ; they say, *Ease the Helm ; No near ; Bear up.*

To keep her upon the same Point ; they say, *Steady ; Thus, thus ; or As you go,* and such-like.

When she neither goes by a Wind, nor before a Wind, but betwixt both ; then they make use of some one of the following Terms, which are all of the same Signification ; viz. *The Ship goes Lasking, Quartering, Veering, or Large.*

The Course, is that Point of the Compass on which the Ship sails. *What Course did you sail ? viz.* On what Point of the Compass ?

Courses, signify the Ship's Sails : as, *She is under a fore Course ;* that is, sails with her Fore-mast Sails only. *Under all her Courses,* is under all her Sails.

Cut the Sail ; viz. Unfurl it, and let it fall down.

D.

Dead Water, signifies the Eddy Water at the Stern of the Ship.

To *Disembogue,* is to go out of the Mouth of a Gulph.

To *Dispart* a Piece of Ordnance, is to find out the Difference of Diameters betwixt the Breech and Mouth of a Cannon.

The Deck is a flush afore and aft ; that is, laid from Head to Stern without any Falls or Rifings.

The Ship drives, is when her Anchors give way.

End

E

End for End, is a Term used, when a Rope runs all out of the Block, so that it is unreev'd (or all drawn out.)

F.

A Fathom, is a Measure containing six Feet.

A Fack, is one Circle of any Rope or Cable quailed up round.

To *Hand* (or *Furl*) a *Sail*, is to wrap it up close together, and bind it up with little Strings, called *Caskets*, fast to the Yard.

To *Fish a Mast*, or *Yard*, is to fasten a Piece of Timber, or Plank, (by way of Splinter) to the Mast or Yard, to strengthen it; which Piece or Plank is called a *Fish*.

To *lower or strike the Flag*, is to pull it down upon the Cap; and is either done in saluting with the utmost Respect, or in Token of yielding to an Enemy in Fight.

Free the Boat or Ship; that is, Bale or Pump the Water out.

To *fall off*, viz. To fall a-stern.

Fore, is towards the Head of the Ship.

G.

The Ship's Gage, is so many Foot as she sinks in the Water, or so many Foot as she draws.

Weather-Gage, is when one Ship has the Wind (or is to the Weather) of another.

To *Greave the Ship*, to bring her to lie a ground, to burn off her old Filth.

The Ship Gripes, viz. Turns her Head to the Wind more than she should.

H.

The Helm is hard a Weather ; that is, 'Tis as far to the Weather as 'twill go.

To *Haul*, signifies to pull.

Heave over-board, is to throw any thing out of the Ship.

To *Hail a Ship*, to call her Company, to know whither they are bound, &c. and is thus done :

Hoa the Ship ! or only *Hoa !* To which they Answer *Hoa !* Likewise to salute another Ship with Trumpets, &c. is called *Hailing*.

Fresh the Hawse, signifies to veer out more Cable, when that Part that lies in the *Hawse* (or Hole thro' which it runs) is fretted or chafed.

An Hawser, is the Cable belonging to the Anchor.

Clear the Hawse, is when two Cables, that come thro' two several *Hawses*, are twisted, and are ordered to be untwisted or freed.

To *ride thwart the Hawse*, and *upon the Hawse*, signifies when a Ship lies thwart, or cross, or with her Stern just before another Ship's *Hawse*.

To *Hitch*, is to make fast.

The Ship Heels, she inclines more to one Side than the other ; as, *She heels to Larboard*, viz. inclines to the Larboard (or left) Side.

The *Hold of a Ship*, is the very lower Apartment or Division in the Bottom of the Ship, betwixt the Keelson and the lower Deck, where all Goods, Stores, &c. lie.

To *rummage the Hold*, is to remove or clear the Goods, &c. out of it.

To *stow the Hold*, is to place Goods, &c. in the Hold.

To *Hoyst*, is to hawl or lift up.

To

To *Hull*, is to take in a Ship's Sails, when she's at Sea.

L.

The Ship Labours ; that is, rolls and tumbles much.

Land-fall, is expressing an Expectation of seeing Land.

Land-locked, is when a Ship lies within a Bay or Creek, and sheltered all round by the Land, so that no Point is open to the View of the Sea.

Lies Land-to, is said, when a Ship is at so great a Distance, as only just to discern Land.

To *Lash*, signifies to bind.

To *Launch a Ship*, is to put her forth off the Dock into the Water : But in some Cases, it is used in a negative Sense ; as,

Launch hoe ; viz. Hoist no more, when a Yard is hoisted high enough, and that Orders are given to stop.

To *lay the Land* ; that is, to lose Sight of it.

Lee-Shore, is that against which the Wind blows.

Have a Care of the Lee-latch ; viz. Take Care the Ship go not out too much to the Lee-ward.

She lies by the Lee ; that is, a Ship has all her Sails lying flat against the Masts and Shrouds.

Leeward, is with the Wind, or on that Point towards which the Wind blows.

The Ship Lifts, viz. heels or inclines to one Side more than the other.

M.

Mizen, has several Words peculiar to it. The *Mizen-Mast* is that which is abaft or nearest to the Stern of the Ship ; and from thence, every thing belonging to that Mast is distinguished accordingly, as are all the other Masts, and their Rigging, &c. So therefore the *Mizen-sail* is called the *Mizen*, and is thus understood, viz.

Set

Set the Mizzen; that is, fit the Mizzen-sail.

Change the Mizzen; Bring the Yard to the other Side of the Mast.

Speck the Mizzen; that is, put the Yard right up and down the Mast.

Spell the Mizzen, let go the Sheet, and peek it up.

To Moor a Ship, is to lay out her Anchors in such a manner as she may most conveniently ride with Safety.

N.

Niep-Tides, are those Tides which are in the first and last Quarter of the Moon, and are not so high, so low, nor so swift as the Spring-tides.

A Ship is beniep'd; that is, when the Water does not flow high enough to bring her from off the Ground, or over a Bar, or out of a Dock.

O.

The Offing, is to the Seaward from the Land; as, when a Ship, or a Fleet, is said to *lie in the Offing*, it means, that they from whom that Expression has come, were in a Ship which lay in Harbour, or were near the Shore, when the others were to the Sea-ward of them.

Offward, Signifies contrary to the Shore.

She stands for the Offing; the Ship sails from the Shore into the Sea, or from the Land-ward to the Sea-ward.

Overfet, is turned over.

P.

To Pay a Seam, is to lay hot Pitch and Tar on (after Caulking) without Canvas.

To Parcel a Seam, (is after a Seam is caulked) to lay over it a narrow Piece of Canvas, and then pour hot Pitch and Tar on it.

To ride a Peek, is when the Yards are so ordered, that they seem to represent St. *Andrew's* Cross.

To Purchase an Anchor; that is; to loosen it so as to be able to hawl it up.

The Capstain Purchases a-pace; viz. draws in the Cable a-pace.

Q.

Quarter-winds, are when the Wind blows in abaft the Main-mast Shrouds, even with the Ship's-quarter.

A Quoil, is a Rope or Cable laid up round, one *Fack* over another; and the *Fack* is call'd *Quoiling*. See F.

R.

A Reach, is the Distance between any two Points of Land, that lie in a right Line from each other.

To Reeve, is to put a Rope through a Block; so, *Unreeving the Rope*, is to pull the Rope out of the Block.

To Ride; A Ship is said to *Ride at Anchor*, when she does not drive with the Wind or Tide, but is held fast by her Anchors.

To Ride a-thwart, is to ride with the Ship's Side to the Tide.

To Ride betwixt Wind and Tide, is when the Ship rides at Anchor, and that the Wind and Tide are contrary, and have equal Strength.

To Ride Hawse-fall'n, is when the Water breaks into the *Hawses* in a rough Sea.

A Road, is any Place near the Land, where Ships may ride at Anchor; from whence a Ship so riding, is call'd a *Roader*.

Rowse in, signifies to *Hawl in*, and is properly applicable only to the *Hawser* or *Cable*, in ordering it to be made strait, tight or taught, when it is slack.

To

S.

To Serve a Rope, is to wind something about it to preserve it from fretting or wearing out.

A Service; The Thing wound about the Rope is so called.

To Seaze, is to make fast or bind.

She Seels; that is, when on a sudden the Ship lies down on her Side, and tumbles from one Side to the other.

The Ship Sands; viz. when her Head or Stern falls deep in the Trough (or Hollow) of the Sea.

To Settle a Deck, is to lay it lower.

The Ship is Sewed; viz. The Water is gone from her.

The Ship Sheares; that is, she goes in and out, and not right forward.

To Sound, is to try with a Line or other Thing, how deep the Water is.

The Ship has spent her Masts; that is, they have been broke by foul Weather; but if a Ship lose her Masts in Fight, it is then said, *Her Masts have been shot by the Board*.

To Splice Ropes; that is, to untwist two Ends of Ropes, then twist them both together, and fasten them by binding a String about them.

The Sails are Split; that is, blown to-pieces.

The Ship Spooms; that is, goes right before the Wind without any Sail.

Spring-tides, are the Tides at new and full Moon, which flow highest, ebb lowest, and run strongest.

The Bowsprit Steeves; viz. Stands too upright.

T.

Tack about; that is, bring the Ship's Head about to lie the other Way.

Talle

Talle aft the Sheets : A peculiar Term used for hawling aft the Sheets of the Main or Fore-sail.

A Windward-Tide, is a Tide that runs against the Wind.

Taught, signifies the same as strait, tight or secure.

A Leeward-tide, when the Wind and Tide go both one Way.

A Tide-gate, is so call'd, where the Tide runs strong.

To Tide it up, is to go with the Tide against the Wind ; and on the Tide's altering, to lie at Anchor till it serves again.

It flows Tide and Half-tide ; that is, it will be high Water sooner by three Hours by the Shore, than in the Offing.

To Tow ; that is, to drag any thing after the Ship or Boat.

The Ship's Traverse, is her Way.

V.

To Veer ; that is, to let-out ; as, Veer more Cable, &c.

The Wind Veers ; viz. It shifts or changes about from one Point to another.

W.

The Ship Wears well ; that is, answers her Helm well.

The Wake of the Ship, is the dead Water that follows the Ship.

The Ship is Walt ; viz. She wants Ballast.

To Weather a Ship ; that is, to go to Windward of her.

To Wind a Ship ; viz. To bring her Head about.

How

How Winds the Ship? that is, upon what Point of the Compass does she lie with her Head?

To Warp a Ship in or out of Harbour, is to carry her against the Wind by means of carrying out an Anchor in the Boat, and dropping it; then to hawl upon it; and so to carry out another Anchor, after the Ship is come up to the first Anchor.

To would, that is, to bind Ropes about the Mast, or the like, to keep on a Fish, or strengthen it.

Y.

The Ship Yaws; viz. She goes in and out, and does not steer steady.

Younkers, are the young Fore-mast-men.



The Names of the Masts, Yards, and Ropes of Rigging respectively belonging to each Mast and Yard of a Ship compleat.

Rigging to the Bow-sprit, and Sprit-sail-Yard.

Sheets, Horse, Clew-lines, Slings for the Yard, Hallyards, Lifts, Garnets, Standing Lifts, Garnets, Standing Lifts, Pendants for Braces, Falls to them, Wouldings, Bunt lines.

Rigging to the Sprit-sail-top-Mast, and Sprit-sail-top-sail-Yards.

Shrouds, Lanyards, Pendants of Braces, Falls to them, Tyes, Hallyards, Clew-lines, Pendants of the Back-stays, Falls to them, Lifts, Parrel-rope.

Rigging to the Fore-Mast and Fore-Yard.

Pendants of Tackles, Runners of Tackles, Falls of Tackles, Shrouds, Lanyard, Stay, Coller, Lanyard, Puttocks, Parrel-Rope, Clugarnets, Bow-lines, Bridles, Pendants for Braces, Falls to them, Bunt-lines, Sheets, Tacks, Lifts, Leech-lines, Geers, Leg of the Catharpings, Falls to them, Stoppers of the Top-sail Sheets, Tye, Hallyards.

Rigging to the Fore-top-Mast, and Fore-top-sail-Yard.

Pendants of Top-Rope, Falls to the same, Shrouds, Lanyards, Stay, Lanyard, Lifts, Puttocks, Tye, Runner, Hallyards, Bow-lines, Bridles.

B

Rigging

Rigging to the Fore-top-Mast, and Fore-top-sail-Yard, continued.

Clew lines, Pendant of Tackles, Falls to them, Sheets, Parrel-Rope, Leech-lines, Braces, Pendant, Bunt-lines, Stand back-Stays, Lanyards.

Rigging to the Fore-top-gallant Mast, and Fore-top-gallant-Yard.

Stay, Tye, Hallyards, Lifts, Braces, Clew-lines, Bow-lines, Bridles, Parrel-rope, Shrouds, Lanyards.

Rigging to the Main-Mast and Main-Yard.

Pendant of Tackle, Runners of Tackle, Falls of Tackle, Lifts, Shrouds, Lanyards, Stay, Coller, Lanyards, Pendant of Garnet, Guy, Fall of the Garnet, Tacks Taper-laid, Sheets, Clew-garnets, Bow-lines, Bridles, Pendants of Braces, Falls, Geers, Parrel Rope, Leech-lines, Bunt-lines, Slab-line, Puttocks, Legs of Catharpings, Falls to them, Stoppers of Fore-sheets, Tackles to set up Shrouds, Busing Tackles, Tye, Hallyards.

Rigging to the Main-top-Mast, Main-top-sail-Yard, and Cross-jack-Yard.

Pendant of Tackle, Falls to them, Shrouds, Lanyards, Stand back-Stays, Lanyards, Stay, Lanyards, Lifts, Braces, Pendant, Bow-lines, Bridles, Pendants of Top Rope, Falls to them, Clew-lines, Tye, Runners, Hallyards, Leech-lines, Bunt-lines, Puttocks, Parrel Rope, Sheets.

Rigging

*Rigging to the Main-top-gallant-Mast, and
Main-top-gallant-Yard.*

Stay, Braces, Bow-lines, Bridles, Parrel-Rope, Tye, Hallyards, Clew-lines, Lifts, Shrouds, Lanyards.

Rigging to the Mizzen-Mast, and Mizzen-Yard.

Shrouds, Lanyards, Stay, Lanyards, Hallyards, Parrel-Rope, Trufs, Sheet, Tack, Bow-lines, Brayles.

Rigging to the Gross-jack.

Lifts, Braces, Standing-Lifts, Lanyards.

Rigging to the Mizzen-top-Mast, and Mizzen-top-sail-Yard.

Shrouds, Lanyards, Puttocks, Braces, Bow-lines, Bridles, Tye, Hallyards, Lifts, Parrel-Rope, Stay, Clew-lines, Cat-Rope, Pendant of the Fish-hook Rope, Falls of the same, Stop at the Bow, Shank-Panter, Stop at the Bits, Lanyards, Vial, Pendant of the Wind-Jack, Falls of the same, By-Ropes.

Directions for making of Masts and Yards according to Proportion for the Merchant's Service.

FOR the Main-mast. As 7 is to 20, so is the Breadth at the Beam, to the Length thereof; and three quarters the Breadth at the Beam is the Thickness; Inches for Feet.

The Fore-mast is Seven-eighths of the Main-mast, and Thickness proportionable.

The Mizzen-mast Two-thirds of the Main-mast, and Thickness proportionable.

The Bow/sprit Three-fifths of the Main-mast, and for Thickness one Inch less than the Main-mast.

The Main Top-mast Three-fifths or Four-sevenths of the Main-mast, and Thickness proportionable.

The Fore Top-mast Seven-eighths of the Main Top-mast, and Thickness proportionable.

The Mizzen Top-mast Four-sevenths of the Main Top-mast, and Thickness proportionable.

The Main Top Gallant-mast Five-twelfths of the Main Top-mast, and Thickness proportionable.

The Fore Top Gallant-mast Seven-eighths of the Main Top Gallant-mast, and Thickness proportionable.

For the Fore-yards.

The Main-yard Seven-tenths of the Main-mast.

The Fore-yard Seven-eighths of the Main-yard.

The Mizzen-yard must be a Medium between both.

The Main Top-fail-yard, Sprit fail-yard, and Cross-jack-yard, Two-thirds of the Main-yard.

The Fore top-fail-yard Seven-eighths of the Main-top-fail-yard.

The Main-top-gallant-yard Three-fifths of the Main-top-fail-yard.

The Fore-top-gallant-yard Seven-eighths of the Main-top-gallant-yard.

The Mizzen-top-fail-yard is the same Length with the Main-top-gallant-yard.

The Proportions of the lower Masts.

Every Inch thick at the Partners, requires Nine-tenths in the Middle and Two-thirds at the End.

Note, The Middle here meant is the Medium between the Partners and the very Extremity of the Mast.

The

The Proportions for Ships of War, as used in Deptford-Yard, is as follows :

TO find the Length of the Main-mast, take half the Length of the Keel, and the Breadth of the Beam, add them together, and divide them by 3, and that is your Length in Yards.

Your Fore-mast must be Eight-ninths of your Main-mast.

The Mizzen-mast must be Two-thirds of your Main-mast, if it stands upon Deck, but if in the Hold, three quarters of your Main-mast.

The Bowsprit must be Eight-ninths of your Fore-mast.

The Main-top-mast, Three-fifths of your Main-mast.

The Main-top-gallant-mast, half of your Main-top-mast.

The Fore-top-mast, Three-fifths of your Fore-mast.

The Fore-top-gallant-mast, half of your Fore-top-mast.

The Mizzen-top-mast, Three-fifths of your Mizzen-mast.

To find the Length of your Main-yard, take thrice the Breadth of your Beam, and a half, add them together and divide by 3 ; and that gives you the Length in Yards.

The Main-top-fail-yard, half your Main-yard.

The Main-top-gallant-yard, half of your Main-top-fail-yard.

The Fore-top-fail-yard, half of your Fore-yard.

The Fore-top gallant-yard, half of your Fore-top-fail-yard.

The Cross-jack-yard, must be the Length of your Main-top-fail-yard.



O F
RIGGING a SHIP.

Rigging for the Fore-mast.

TWO thirds of the Length of the Mast is the first Length of the Shrouds ; and afterwards give Allowance as they rise upon the Head of the Mast.

Half the Length of the Shroud is the Length of the Pendants ; if double two-thirds.

The Length of the Mast is the Length of the Stay.

Thrice the Length of the Shrouds is the Length of the Lifts.

Three times the Length of the Shrouds is the Length of the Clew-garnets.

Twice the Length of the Mast from the Deck to the Cross-trees, is the Length of the Bunt-lines.

Legs, Horses, one Length and a fifth of the Yard.

Twice the Length of the Main-yard is the Length of the Leech-lines.

Twice the Length of the Main-yard for the Braces.

Parrel-rope Two-thirds of the Yard.

Two and a half the Length of the Main-yard for the Fore-sheets.

Four times the Length of the Mast is the Length of the Jeers.

Twice the Length of the Main-yard is the Length of the Bunt-lines ; and the same Length for the Top-tail Sheet.

Rigging for the Main-mast.

The Length of the Shrouds is the Length of the Pendants ; if double, two-thirds of the Shrouds.

Two-thirds the Length of the Mast, is the Length of the Shrouds.

The Length of the Mast, and One-eighth part of the Length of the Mast, is the Length of the Stay.

Four times the Length of the Mast, from the Deck to the Cross-trees, is the Length of the Jeers ; if four-fold Jeers, five times.

A Length and an half of the Main-yard, is the Length of the Studding-sail Hallyards.

Two Lengths and two-thirds of the Main-mast, is the Length of the Stay-sail Hallyards.

Horses one Length and one third of the Yard.

Parrel Ropes two-thirds of the Yard.

Three times the Length of the Main-yard, is the Length of the Lifts.

Twice and a half the Length of the Main-yard is the Length of the Braces.

The Length of the Main-yard is the Length of the Bow-lines.

Twice and a half the Length of the Main-yard is the Length of the Clew-garnet.

Bunt-lines must be four times the Length of the Mast for Falls and Legs.

Twice the Length of the Main-yard, is the Length of the Leech-lines.

The Length of the Main-yard, is the Length of the Tacks ; Runners must be the same Length.

Twice and a half the Length of the Main-yard, is the Length of the Sheets.

Twice the Length of the Mast is the Length of the Knave-line.

Twice

Twice the Length of the Main-yard, is the Length of the Top-sail Sheets.

Twice the Length of the Mast, is the Length of the Slab-line.

Rigging for the Mizzen-mast.

Four times the Length of the Mast, from the Deck to the Cross-tree, is the Length of the Hallyards.

Twice the Length of the Mast, from the Deck to the Cross-trees, is the Length of the Brayles.

The Length and one-third of the Yard is the Length of the Sheet.

The Tacks about three Fathoms.

The Length of the Mast is the Length of the Shrouds.
Half the Shrouds is the Length of the Pendants.

The Length of the Main-yard is the Length of the Burton Fall.

The Length of the Mast is the Length of the Stay, wanting the Length of the Head of the Mast, if it steps in the Hold.

The Length of the Cross-jack-yard, is the Length of the Bow-lines.

Rigging for the Fore-top-mast.

One third the Length of the Shrouds, is the Length of the Pendants.

Once the Length of the Mast is the Length of the Shrouds.

Once the Length of the Fore-yard is the Length of the Burtons.

Pendants of the Burtons, half the Length of the Top-sail-yard; and Falls for them twice the Length of the Yard.

Twice and an half the Length of the Fore-yard is the Length of the Lifts.

Thrice

Thrice the Length of the Yard is the Length of the Clew-line.

Twice and a half the Length of the Fore-yard is the Length of the Braces.

Twice the Length of the Fore-yard is the Length of the Bow-lines.

Twice the Length of the Fore-top-sail-yard is the Length of the Leech-lines.

Once the Length of the Top-mast is the Length of the Tye.

Once and an half the Length of the Fore-yard, is the Length of the Runners.

Thrice the Length of the Fore-yard, is the Length of the Hallyards.

Once and one third the Length of the Mast, is the Length of the Stay.

Once and an half the Length of the Fore-yard, is the Length of the Back-stays.

Twice the Length of the Fore-yard, is the Length of the Bunt-lines.

Rigging for the Main-top-mast.

Half the Length of the Shrouds, is the Length of the Pendants.

Once the Length of the Mast, is the Length of the Shrouds.

Once and an half the Length of the Mast, is the Length of the Stay.

Twice and an half the Length of the Main-yard, is the Length of the Braces.

One third of the Length of the Main-yard, is the Length of the Burtons; Pendants of the Burtons half the Length of the Top-sail-yard, and Falls for Burtons is two Lengths and one-third of the Main-yard.

Twice and an half the Length of the Main-yard, is the Length of the Lifts.

Twice

Twice the Length of the Main-yard, is the Length of the Bunt-lines.

Thrice the Length of the Main-yard, is the Length of the Clew-lines.

Once the Length of the Top-mast Shrouds, is the Length of the Tye.

Once the Length of the Main-yard, is the Length of the Runners.

Three times the Length of the Main-yard, is the Length of the Hall-yards.

Twice the Length of the Top-sail-yard, is the Length of the Leech-lines.

Twice the Length from the Deck to the Hounds, is the Length of the Bunt-lines.

Once and one fourth the Length of the Main Shrouds, is the Length of the Top-rope.

Four times the Length of the Main-mast, is the Length of the Top-rope Fall.

One-third of the Top-sail-yard, is the Length of the Pendants for Braces.

Once and an half the Length of the Yard, is the Length of the Back-stays.

Rigging for the Mizzen-top-mast.

One-third of the Shrouds is the Length of the Pendants.

The Length of the Mast from the Cross-trees to the Heel, the Length of the Shrouds.

Once and an half the Length of the Mast, is the Length of the Stay.

Three times the Length of the Mast, is the Length of the Lifts.

Once and one-third of the Length of the Mizzen-yard, is the Length of the Braces.

Once and a half the Length of the Cross-jack-yard, is the Length of the Bow-lines.

Twice

Twice and an half the Length of the Cross-jack-yard, is the Length of the Cross jack-braces ; if double, two Lengths and an half of the Mizzen-yard.

Twice and an half the Length of the Cross-jack-yard, is the Length of the Sheets.

Twice and an half the Length of Cross-jack-yard, is the Length of the Clew-lines.

Once and two-thirds the Length of the Mizzen-yard, is the Length of the Hallyards.

Once the Length of the Top-mast, from the Cross-trees to the Heel, is the Length of the Tye.

Rigging for the Fore-top-gallant-mast.

Once the Length of the Mast, from the Cross-trees to the Feed-hold, is the Length of the Shrouds.

Once and an half the Length of the Fore-yard, is Length of the Stay.

Three times the Length of the Mast, is the Length of the Lifts.

Twice and an half the Length of the Fore-yard, is the Length of the Braces.

Twice and an half the Length of the Fore-yard, is the Length of the Bow-lines.

Twice and an half the Length of the Fore-yard, is the Length of the Hallyards.

Rigging for the Main-top-gallant-mast.

Once the Length of the Mast, from the Cross-trees to the Heel, is the Length of the Shrouds.

Two Lengths and one-fourth of the Top-mast-shrouds, is the Length of the Stay.

Thrice the Length of the Top-gallant-mast, is the Length of the Lifts.

Once the Length of the Yard, is the Length of the Parrel-rope.

Twice

Twice the Length of the Main-yard is the Length of the Braces.

Twice the Length of the Main-yard, is the Length of the Bow-lines.

The Length of the Mast is the Length of the Tye.

Twice and one-fourth the Length of the Main-yard, is the Length of the Hallyards ; if single, one Length and two-thirds of the Main-yard.

Twice the Length of the Main-yard, is the Length of the Top-rope.

For the Sprit-sail-yard.

Three times the Length of the Yard, is the Length of the Hallyards.

Three times the Length of the Yard, is the Length of the Lifts.

Twice the Length of the Yard, gives the Length of the Clew-lines.

Twice the Length of the Fore-yard, is the Length of the Braces.

Twice the Length of the Yard, is the Length of the Bunt-lines.

For the Sheets, thrice the Length of the Yard ; and for the Pendants, one third of the Yard.

For the Sprit-sail-top-mast.

The Length of the Mast from the Heel to the Cross-trees, is the Length of the Shrouds.

Thrice the Length of the Mast is the Length of the Hallyards.

Thrice the Length of the Mast is the Length of the Lifts.

Twice the Length of the Sprit-sail-yard, is the Length of the Clew-lines.

Twice

Twice the Length of the Sprit-sail-yard, is the Length of the Braces.

Twice the Length of the Top-sail-yard, is the Length of the Crane-lines.

The Pendant of the Crane-line is half of the Mast.

Once the Length of the Mast is the Length of the Tye.

A TABLE of the Thickness of all Ropes belonging to any Ship, from a Mast of 12 Inches to 34 Inches through.

The Use of the TABLE.

FIND the Diameter of the Main-mast at the Top of the Column, and under that, and against the Name of the Rope, you have the Thickness of the said Rope.

Example.

Suppose in a Ship whose Main-mast is 32 Inches through, and I desire to know the Thickness of the Braces : I look for the Mast of 32 Inch. at the Top of the Table, page 27, and under it against Braces, I find 3 ; which shews that a Ship whose Main-mast is 32 Inches through, or in Diameter, requires the Braces to be 3 Inches.

Again : If the Main-top-gallant Braces of the same Ship are required : Look in page 35, for the Bigness of the Main-top-gallant Rigging, you will (under 2 the Column for 34 Inch Masts, as may be observed in Page 26, by their general Titles, which Titles may very well serve every Page without Repetition) find $1\frac{1}{2}$ Inch, the Thickness of the Main-top-gallant Braces. Thus proceed for any other.

OF RIGGING a SHIP.

The Bigness of the Rigging for these Main-masts and Main-top-masts.

	Mast of 12 Inch. 12 Inl. 4 1/2	Mast of 13 Inch. 11 Inl. 4 3/4	Mast of 19 Inch. 10 Inl. 5 1/4	Mast of 23 Inch. 9 Inl. 6 3/4	Mast of 24 Inch. 10 Inl. 7 5/8	Mast of 26 Inch. 7 Inl. 5 3/4	Mast of 27 Inch. 6 Inl. 5 1/2	Mast of 28 Inch. 5 Inl. 6 1/2	Mast of 29 Inch. 4 Inl. 6 1/2	Mast of 30 Inch. 3 Inl. 7 5/8	Mast of 32 Inch. 1 1/2 Inl. 8 5/8	Mast of 34 Inch. 1 1/2 Inl. 8 5/8
Pendant of Tackles	—	—	—	—	—	—	—	—	—	—	—	—
Runners	—	—	—	—	—	—	—	—	—	—	—	—
Falls of the Tackles	—	—	—	—	—	—	—	—	—	—	—	—
Shrouds	—	—	—	—	—	—	—	—	—	—	—	—
Lanyards	—	—	—	—	—	—	—	—	—	—	—	—
Swifters	—	—	—	—	—	—	—	—	—	—	—	—
Lanyards	—	—	—	—	—	—	—	—	—	—	—	—
Stay	—	—	—	—	—	—	—	—	—	—	—	—
Collar at the Stem	—	—	—	—	—	—	—	—	—	—	—	—
Lanyard of the Stay	—	—	—	—	—	—	—	—	—	—	—	—
Lifts	—	—	—	—	—	—	—	—	—	—	—	—
Tacks	—	—	—	—	—	—	—	—	—	—	—	—

Chetels

OF RIGGING a SHIP.

The Bigness of the Rigging for these Main-masts, and Main-top-masts, continued.

	1 ¹ / ₂	2	3	4	5	6	7	8	9	10	11	12
Sheets	6 ¹ / ₂	6 ¹ / ₂	6 ¹ / ₂	6 ¹ / ₂	5	4 ¹ / ₂	4	4 ¹ / ₂	4 ¹ / ₂	3 ¹ / ₂	2 ¹ / ₂	3
Bow-lines	5 ¹ / ₂	5 ¹ / ₂	4 ¹ / ₂	4 ¹ / ₂	4 ¹ / ₂	4 ¹ / ₂	3 ¹ / ₂	3 ¹ / ₂	3 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂
Bridles	4 ¹ / ₂	4 ¹ / ₂	4 ¹ / ₂	4 ¹ / ₂	3 ¹ / ₂	3 ¹ / ₂	3 ¹ / ₂	3 ¹ / ₂	3 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂
Pendants Fore braces	4	4	3 ¹ / ₂	3 ¹ / ₂	3 ¹ / ₂	3 ¹ / ₂	3 ¹ / ₂	3 ¹ / ₂	3 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂
Braces	3	3 ¹ / ₂	3	3 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂
Clew-garnets	4 ¹ / ₂	3 ¹ / ₂	3	3	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂
Jeers	8 ¹ / ₂	6	7	5	4	4	3	4 ¹ / ₂	4	3 ¹ / ₂	3	3
Barrel-rope	8	7	6	5	4	4	3	4 ¹ / ₂	4	3 ¹ / ₂	3	3
Breast-rope	8	7	6	5	4	4	3	4 ¹ / ₂	4	3 ¹ / ₂	3	3
Runner of Martlines	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2	2	2	2 ¹ / ₂	2 ¹ / ₂	2	1 ¹ / ₂	4
Fall of Martlines	3	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2	2	2	2 ¹ / ₂	2 ¹ / ₂	2	1 ¹ / ₂	4
Pendant of the Garnet	8	8	7 ¹ / ₂	7	6	4	3 ¹ / ₂	6	5 ¹ / ₂	5	3	3
Tye	6	5 ¹ / ₂	5	5	4	4	3 ¹ / ₂	3 ¹ / ₂	3 ¹ / ₂	3 ¹ / ₂	3	3
Fall of the Garnet	4 ¹ / ₂	4	4	4	3	3 ¹ / ₂	3	3	3	2 ¹ / ₂	2	2

Note, Their Bur-tlines are in Bigness as followeth, 3¹/₂, 3¹/₂, 3, 2¹/₂, 2, 2, 2, 2, 2, 2, 1¹/₂.

Note, The Ships that have no Jeers, their Tye is 4 Inches, and their Hallyards is 2¹/₂.
Main

OF RIGGING A SHIP.

Main-top-mast Rigging.

Pendant of Tackles	1	2	3	4	5	6	7	8	9	10	11	12
Falls of the Tackles	1	2	3	4	5	6	7	8	9	10	11	12
Shrouds	5 $\frac{1}{2}$	5 $\frac{1}{2}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$	3 $\frac{1}{2}$	3	2 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$
Lanyards	5 $\frac{1}{2}$	5 $\frac{1}{2}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$	4	3	3 $\frac{1}{2}$	4	3 $\frac{1}{2}$	3 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$
Backstays	5 $\frac{1}{2}$	5 $\frac{1}{2}$	4 $\frac{1}{2}$	4 $\frac{1}{2}$	4	3	3 $\frac{1}{2}$	4	3 $\frac{1}{2}$	3 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$
Lanyards	5	5	5	4 $\frac{1}{2}$	3 $\frac{1}{2}$	3	2	4 $\frac{1}{2}$	4	3 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$
Stay	8	7	6	5	5	4 $\frac{1}{2}$	4	5	4 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	2 $\frac{1}{2}$
Lanyard	4	4	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3	3	2 $\frac{1}{2}$	3	4 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	2 $\frac{1}{2}$
Lifts	3 $\frac{1}{2}$	3	2 $\frac{1}{2}$	2 $\frac{1}{2}$	2	2	2 $\frac{1}{2}$	2	2	1 $\frac{1}{2}$	1	1

The Bigness of Fore Rigging.

Pendants of Tackles	1	2	3	4	5	6	7	8	9	10	11	12
Runners of Tackles	8	7 $\frac{1}{2}$	7	6	5	5	5	6 $\frac{1}{2}$	5 $\frac{1}{2}$	4 $\frac{1}{2}$	3 $\frac{1}{2}$	6 $\frac{1}{2}$
The Falls	5 $\frac{1}{2}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$	4	4	4	5 $\frac{1}{2}$	5 $\frac{1}{2}$	4 $\frac{1}{2}$	3 $\frac{1}{2}$	2 $\frac{1}{2}$
Shrouds	4	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3	3	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$	3 $\frac{1}{2}$
Lanyards	4	4	4	4	4	4	4	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3	2	2
Swifters	4	4	4	4	4	4	4	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3	2	2
Lanyards	4 $\frac{1}{2}$	4	4	4	4	3 $\frac{1}{2}$	3	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3	2	2
Stay	4 $\frac{1}{2}$	4	4	4	4	3 $\frac{1}{2}$	3	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3	2	2

OF RIGGING A SHIP.

The Bigness of Fore Rigging, continued.

	1	2	3	4	5	6	7	8	9	10	11	12
Stay	15	13	12	11	9	7	6 $\frac{1}{2}$	10 $\frac{1}{2}$	8 $\frac{1}{2}$	7 $\frac{1}{2}$	5	4
Lanyard	5	5 $\frac{1}{2}$	5	4 $\frac{1}{2}$	4	3 $\frac{1}{2}$	3	4 $\frac{1}{2}$	3 $\frac{1}{2}$	3	2	2
Tye	6	7 $\frac{1}{2}$	7	6	6	6	5 $\frac{1}{2}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$	5	3 $\frac{1}{2}$	4
Hallyards	6 $\frac{1}{2}$	6	6	5	4 $\frac{1}{2}$	3 $\frac{1}{2}$	3	3	3 $\frac{1}{2}$	3	2	2
Leers	4	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3	4	4	3 $\frac{1}{2}$	3	3	2 $\frac{1}{2}$	2	2 $\frac{1}{2}$
Lifts	5	5	4 $\frac{1}{2}$	4 $\frac{1}{2}$	4	4	3	3	3	2 $\frac{1}{2}$	2	2 $\frac{1}{2}$
Parcel-ropes	8	7	6	6	5	4	3 $\frac{1}{2}$	4 $\frac{1}{2}$	4	3 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$
Breadth-ropes	6	6	5	5	4 $\frac{1}{2}$	4	3 $\frac{1}{2}$	4 $\frac{1}{2}$	4	3 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$
Sheets	8 $\frac{1}{2}$	8	7	7	6	5	4 $\frac{1}{2}$	6	6	5	2 $\frac{1}{2}$	2 $\frac{1}{2}$
Jacks	4 $\frac{1}{2}$	4 $\frac{1}{2}$	4	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3	3	3 $\frac{1}{2}$	3	2 $\frac{1}{2}$	2	2
Bow-lines	4 $\frac{1}{2}$	4 $\frac{1}{2}$	4	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3	3	3 $\frac{1}{2}$	3	2 $\frac{1}{2}$	2	2
Bridles	4	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3	3	3	2 $\frac{1}{2}$	3	3	2 $\frac{1}{2}$	2	2
Pendants of Braces	4	3 $\frac{1}{2}$	3 $\frac{1}{2}$	3	3	3	2 $\frac{1}{2}$	3	3	2 $\frac{1}{2}$	2	2
Braces	3	3	3	2 $\frac{1}{2}$	2	2	2	2	2	2	1 $\frac{1}{2}$	1 $\frac{1}{2}$
Clew-garnets	3 $\frac{1}{2}$	3	3	2 $\frac{1}{2}$	2	2	2	2	2	2	1 $\frac{1}{2}$	1 $\frac{1}{2}$
Bunt-lines	3	3	3	2 $\frac{1}{2}$	2	2	2	2	2	2	1 $\frac{1}{2}$	1 $\frac{1}{2}$
Marline Runners	3	2 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$	2	2	2	2	2	2	1 $\frac{1}{2}$	1 $\frac{1}{2}$
Marlines	2 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{1}{2}$	2	2	2	2	2	2	1 $\frac{1}{2}$	1 $\frac{1}{2}$

OF RIGGING A SHIP.

The Bigness of the Fore-top-sail Rigging.

	1	2	3	4	5	6	7	8	9	10	11	12
Pendant of Tackles	$4\frac{1}{2}$	4	$3\frac{1}{2}$	3	$2\frac{1}{2}$	$2\frac{1}{2}$	$3\frac{1}{2}$	$3\frac{1}{2}$	3	$2\frac{1}{2}$	2	2
Falls to them	$2\frac{1}{2}$	2	2	2	$1\frac{1}{2}$	$1\frac{1}{2}$	2	2	2	$1\frac{1}{2}$	1	1
Shrouds	$4\frac{1}{2}$	4	$3\frac{1}{2}$	$3\frac{1}{2}$	$3\frac{1}{2}$	$3\frac{1}{2}$	$2\frac{1}{2}$	4	3	$1\frac{1}{2}$	2	2
Lanyards	2	$2\frac{1}{2}$	$2\frac{1}{2}$	2	$1\frac{1}{2}$	$1\frac{1}{2}$	2	2	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$
Puttocks	5	$4\frac{1}{2}$	$4\frac{1}{2}$	$4\frac{1}{2}$	3	3	$2\frac{3}{4}$	$3\frac{1}{2}$	4	3	2	$2\frac{1}{2}$
Stay	5	5	$5\frac{1}{2}$	$4\frac{1}{2}$	4	3	3	$4\frac{1}{2}$	3	2	2	$2\frac{1}{2}$
Pendant of the Lanyard	$4\frac{1}{2}$	$3\frac{1}{2}$	$3\frac{1}{2}$	3	$2\frac{1}{2}$	$2\frac{1}{2}$	$1\frac{1}{4}$	4	$2\frac{1}{2}$	2	$1\frac{1}{2}$	$1\frac{1}{2}$
Fall of the Lanyard	$3\frac{1}{2}$	$3\frac{1}{2}$	$3\frac{1}{2}$	$2\frac{1}{2}$	2	2	2	3	$2\frac{1}{2}$	$1\frac{1}{2}$	2	$1\frac{1}{2}$
Tye	7	7	$6\frac{1}{2}$	$6\frac{1}{2}$	5	5	5	6	5	$3\frac{1}{2}$	$1\frac{1}{2}$	
Runner	5	$4\frac{1}{2}$	4	4	4	$4\frac{1}{2}$	$4\frac{1}{4}$	$4\frac{1}{2}$	$4\frac{1}{2}$	$3\frac{1}{2}$	$1\frac{1}{2}$	
Hallyards	5	$4\frac{1}{2}$	4	4	4	$3\frac{1}{2}$	$2\frac{3}{4}$	3	$2\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	
Bow-lines	4	$3\frac{1}{2}$	3	3	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$	2	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	
Bridles	$3\frac{1}{2}$	$3\frac{1}{2}$	3	3	$2\frac{1}{2}$	$2\frac{1}{2}$	$2\frac{1}{2}$	2	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	
Clew-lines	4	4	4	$3\frac{1}{2}$	3	$2\frac{1}{2}$	2	3	3	$1\frac{1}{2}$	2	
Parcel rope	4	4	4	$3\frac{1}{2}$	$3\frac{1}{2}$	3	2	$3\frac{1}{2}$	3	$1\frac{1}{2}$	2	

The

OF RIGGING A SHIP.

The Bigness of the Bolt-sprit Riggers.

	1	2	3	4	5	6	7	8	9	10	11	12
Pendants of Sheets	6	6	5½	5½	4½	4	3½	5	4½	4	3	2½
Sheets	4½	4½	4	3½	3	2½	2½	4	3½	3½	3	2½
Clew lines	3	3	3	3	2½	2½	2	3	3	3	2½	2½
Garnets	3½	3	3	3	2½	2½	2	3	3	3	2½	2½
Pendants of Braces	4	4	3½	3	3	2½	2½	3	3	3	2½	2½
Braces	2½	2½	2½	2½	2	2	2	2½	2½	2½	2	2
Hallyards	4	4	3½	3	3	2½	2½	3	3	3	2½	2½
Tye	7	6	5	4	3	2	2	3	3	3	2½	2
Bunt-lines	3	3	2½	2½	2	2	2	3	3	3	2½	2
Hoffe	6	6	5½	5½	4½	4	3½	5	4½	4	3	2½
Lifts	4	3	3	3	2½	2	2	3	3	3	2½	2
<i>The Bigness of the Sprit-sail-top Riggers.</i>												
Shrouds	1	2	3	4	5	6	7	8	9	10	11	12
I anyards	3	3	2½	2½	2	2	1½	2½	2½	2	1½	1
Pendants of Braces	2	2	1½	1½	1	1	1	2	2	1½	1	1
Braces	2	2	1½	1½	1	1	1	2	2	1½	1	1
Tye	3	3	2½	2½	2	2	1½	2½	2½	2	1½	1
Hallyards	3	3	2½	2½	2	2	1½	2½	2½	2	1½	1

OF RIGGING a SHIP.

The Bigness of the Sprit-sail-top Rigging
continued.

Halliards	Clew-lines	Pendants of Tackles	Falls to them	Lifts	Putrocks	Parcel-ropes
1	2	3	4	5	6	7
2	2	2	2	1	1	1
3	2	2	2	1	1	1
4	2	2	2	1	1	1
5	2	2	2	1	1	1
6	2	2	2	1	1	1
7	2	2	2	1	1	1
8	2	2	2	1	1	1
9	2	2	2	1	1	1
10	2	2	2	1	1	1
11	2	2	2	1	1	1
12	2	2	2	1	1	1

*The Bigness of the Mizzen Rigging.**The Mizzen-mast.*

Pendants of Tackles	Runners	Falls of Tackles	Shrouds	Lanyards	Tye
1	2	3	4	5	6
2	2	2	2	1	1
3	2	2	2	1	1
4	2	2	2	1	1
5	2	2	2	1	1
6	2	2	2	1	1
7	2	2	2	1	1
8	2	2	2	1	1
9	2	2	2	1	1
10	2	2	2	1	1
11	2	2	2	1	1
12	2	2	2	1	1

Halliards

OF RIGGING a SHIP.

The Seaman's Vade-mecum.

<i>The Mizzen-mast continued.</i>											
Hallyards	—	—	—	—	—	—	—	—	—	—	—
Stay	—	—	—	—	—	—	—	—	—	—	—
Lanyards	—	—	—	—	—	—	—	—	—	—	—
Sheet	—	—	—	—	—	—	—	—	—	—	—
Teer	—	—	—	—	—	—	—	—	—	—	—
Truſs	—	—	—	—	—	—	—	—	—	—	—
Bow-lines	—	—	—	—	—	—	—	—	—	—	—
Brayles	—	—	—	—	—	—	—	—	—	—	—
Parrel-rope	—	—	—	—	—	—	—	—	—	—	—
<i>The Cross-jack.</i>											
Lifts	—	—	—	—	—	—	—	—	—	—	—
Braces	—	—	—	—	—	—	—	—	—	—	—
Pendants	—	—	—	—	—	—	—	—	—	—	—
Hallyards	—	—	—	—	—	—	—	—	—	—	—

Bignefs

OF RIGGING A SHIP.

[illegible]

The Bigness of the Main-top-gallant Rigging.

OF RIGGING a SHIP.

	1	2	3	4	5	6	7	8	9	10	11	12
Pendants of Tackles	3	2	2	2	2	2	2	2	2	2	2	2
Falls of Tackles	3	2	2	2	2	2	2	2	2	2	2	2
Shrouds	3	2	2	2	2	2	2	2	2	2	2	2
Lanyards	3	2	2	2	2	2	2	2	2	2	2	2
Putlocks	3	2	2	2	2	2	2	2	2	2	2	2
Pendants of Back-stays	3	2	2	2	2	2	2	2	2	2	2	2
Falls to them	3	2	2	2	2	2	2	2	2	2	2	2
The Stay	3	2	2	2	2	2	2	2	2	2	2	2
Lanyard	3	2	2	2	2	2	2	2	2	2	2	2
Braces	3	2	2	2	2	2	2	2	2	2	2	2
Pendant of Braces	3	2	2	2	2	2	2	2	2	2	2	2
Bow-lines	3	2	2	2	2	2	2	2	2	2	2	2
Bridles	3	2	2	2	2	2	2	2	2	2	2	2
Top-rope	3	2	2	2	2	2	2	2	2	2	2	2
Parrel-rope	3	2	2	2	2	2	2	2	2	2	2	2
Type	3	2	2	2	2	2	2	2	2	2	2	2
Hallyards	3	2	2	2	2	2	2	2	2	2	2	2
Lifts	3	2	2	2	2	2	2	2	2	2	2	2
Flag-staff-stay	3	2	2	2	2	2	2	2	2	2	2	2
Clew-lines	3	2	2	2	2	2	2	2	2	2	2	2

OF RIGGING A SHIP.

The Rigness of the Fore-top-gallant Rigging.

	1	2	3	4	5	6	7	8	9	10	11	12
Tye	1	2	3	4	5	6	7	8	9	10	11	12
Hallyards	1	2	3	4	5	6	7	8	9	10	11	12
Bow-lines	1	2	3	4	5	6	7	8	9	10	11	12
Bridles	1	2	3	4	5	6	7	8	9	10	11	12
Stay	1	2	3	4	5	6	7	8	9	10	11	12
Shrouds	1	2	3	4	5	6	7	8	9	10	11	12
Lanyards	1	2	3	4	5	6	7	8	9	10	11	12
Parcel-ropes	1	2	3	4	5	6	7	8	9	10	11	12
Clew-lines	1	2	3	4	5	6	7	8	9	10	11	12
Braces	1	2	3	4	5	6	7	8	9	10	11	12
Lifts	1	2	3	4	5	6	7	8	9	10	11	12
Top-ropes	1	2	3	4	5	6	7	8	9	10	11	12
Pendant of Tackles	1	2	3	4	5	6	7	8	9	10	11	12
Falls	1	2	3	4	5	6	7	8	9	10	11	12
Partocks	1	2	3	4	5	6	7	8	9	10	11	12
Back-flays	1	2	3	4	5	6	7	8	9	10	11	12

Weights

Weight of ANCHORS.

1.

	C.	q.	p.	ou.
Sheet Anchor	60	0	0	3
Best Bower—	56	0	0	1
Small Bower	55	0	0	0
Stream Anchor	25	0	0	0
Kedge Anchor—	8	2	0	2

2.

Sheet Anchor—	43	0	0	3
Best Bower—	40	0	0	5
Small Bower—	39	0	0	3
Stream Anchor	20	0	1	2
Kedge Anchor—	7	2	0	0

3.

Sheet Anchor—	35	3	3	2
Best Bower—	34	0	0	2
Small Bower—	31	2	2	7
Stream Anchor	11	3	2	5
Kedge Anchor—	4	0	0	2

4.

Sheet Anchor—	32	0	0	0
Best Bower—	30	0	0	0
Small Bower—	27	0	2	2
Stream Anchor	11	0	0	0
Kedge Anchor—	3	1	0	0

5.

	C.	q.	p.
Sheet Anchor	29	0	0
Best Bower—	25	0	0
Small Bower—	23	3	2
Stream Anchor	9	0	0
Kedge Anchor—	2	2	7

6.

Sheet Anchor—	28	0	0
Best Bower—	27	0	0
Small Bower—	16	0	0
Stream Anchor—	4	3	2
Kedge Anchor—	2	3	0

7.

Sheet Anchor	22	0	2
Best Bower—	11	0	0
Small Bower—	9	2	0
Stream Anchor—	5	0	2
Kedge Anchor—	2	0	0

8.

Sheet Anchor—	27	0	0
Best Bower—	23	3	5
Small Bower—	23	0	0

D

Weight

Weight of **A N C H O R S**, continued.

9.		11.	
	<i>C. q. p.</i>		<i>C. q. p.</i>
Sheet Anchor —	18 0 0	Sheet Anchor —	7 0 0
Best Bower —	17 0 0	Best Bower —	6 0 0
Small Bower —	16 0 2	Small Bower —	5 2 0
Stream Anchor —	4 2 0		
Kedge Anchor —	2 2 0		
10.		12.	
Sheet Anchor —	11 0 0	Sheet Anchor —	5 0 2
Best Bower —	10 0 0	Best Bower —	4 0 0
Small Bower —	9 0 2	Small Bower —	3 2 3

Sizes of C A B L E S.

1.		3.	
	<i>Inches.</i>		<i>Inches.</i>
C ables of —	21	Cables of —	17
Cables of —	20	Cables of —	16
Cables of —	14 ¹	Cables of —	12
Cables of —	10	Cables of —	8
Cables of —	9		
2.		4.	
Cables of —	20	Cables of —	17
Cables of —	19	Cables of —	16
Cables of —	13	Cables of —	11
Cables of —	9		
Cables of —	8		

Sizes

Sizes of CABLES continued.

5.		9.	
Cables of	15	Cables of	14
Cables of	14	Cables of	13
Cables of	9	Cables of	12 $\frac{1}{2}$
		Cables of	12
		Cables of	8
6.		10.	
Cables of	13	Cables of	12
Cables of	12	Cables of	11
7.		11.	
Cables of	10	Cables of	8
Cables of	9	Cables of	7 $\frac{1}{2}$
		Cables of	6
8.		12.	
Cables of	16	Cables of	8
Cables of	15	Cables of	7
Cables of	10	Cables of	6

A CORDAGE TABLE, shewing how many Fathom, Feet and Inches, of a Rope of any Size under 14 Inches makes a Hundred Weight; with the Construction of the Table, and Rules to calculate the Weight of Ropes to any larger Circumference.

I.	F.	F.	I.	I.	F.	F.	I.	I.	F.	F.	I.
1	486	0	0	6	13	3	0	11	4	0	3
$\frac{1}{4}$	313	3	0	$\frac{1}{4}$	12	2	0	$\frac{1}{4}$	3	5	7
$\frac{1}{2}$	216	3	0	$\frac{1}{2}$	1	3	0	$\frac{1}{2}$	3	4	1
$\frac{3}{4}$	159	3	0	$\frac{3}{4}$	10	4	0	$\frac{3}{4}$	3	3	3
2	121	3	0	7	9	5	6	12	3	2	3
$\frac{1}{4}$	96	2	0	$\frac{1}{4}$	9	1	6	$\frac{1}{4}$	3	2	1
$\frac{1}{2}$	77	3	0	$\frac{1}{2}$	8	4	0	$\frac{1}{2}$	3	2	0
$\frac{3}{4}$	65	4	0	$\frac{3}{4}$	8	3	6	$\frac{3}{4}$	2	7	8
3	54	0	0	8	7	3	6	13	2	5	3
$\frac{1}{4}$	45	5	2	$\frac{1}{4}$	7	0	8	$\frac{1}{4}$	2	4	9
$\frac{1}{2}$	39	3	0	$\frac{1}{2}$	6	4	3	$\frac{1}{2}$	2	4	0
$\frac{3}{4}$	34	3	9	$\frac{3}{4}$	6	2	1	$\frac{3}{4}$	2	3	6
4	30	1	6	9	6	0	0	14	2	2	1
$\frac{1}{4}$	26	5	3	$\frac{1}{4}$	5	4	0				
$\frac{1}{2}$	24	0	0	$\frac{1}{2}$	5	2	0				
$\frac{3}{4}$	21	3	0	$\frac{3}{4}$	5	0	6				
5	19	3	0	10	4	5	0				
$\frac{1}{4}$	17	4	0	$\frac{1}{4}$	4	4	1				
$\frac{1}{2}$	16	1	0	$\frac{1}{2}$	4	2	2				
$\frac{3}{4}$	14	4	6	$\frac{3}{4}$	4	1	8				
6	13	3	0	11	4	0	3				

The Use of the Cordage-Table.

THE Letters *I. F. F. I.* at the Top of the Table signify *Inches, Fathoms, Feet and Inches*. The first Column being the Thickness of the Rope in Inches and Quarters, and the other three the Fathoms, Feet and Inches that make up an hundred Weight of such a Rope. One *Example* will make it plain.

Suppose I desire to know how much of a 7 Inch Rope will make an hundred Weight; find 7 in the fifth Column under *I.* or *Inches* thickness of the Rope, and against that, in the sixth, seventh, and eighth Columns, you find 9 | 5 | 6; which shews, that in a Rope of 7 Inches there will be 9 Fathom, 5 Foot, and 6 Inches, be required to make an hundred Weight. And so in a 9 Inch Rope, 6 Fathom makes an hundred Weight: And in a three Inch Rope 54 Fathom makes an hundred Weight, &c.

The Construction of this TABLE is from hence.

A Rope of 1 Inch about, requires 486 Fathom to make up an hundred Weight; and, as the superficial Content of all Circles are in proportion to the Squares of Diameters (and consequently to the Squares of their Circumferences) it will follow, that as a Rope of 1 Inch in Circumference whose Square is also 1, has 486 Fathom to an hundred Weight; 486 divided by the Square of the Circumference, or Girt of any other Rope, the Quotient will give the Number of Fathoms in an hundred Weight. As for *Example*: In a 9 Inch Rope 9 times 9 is 81, by which divide 486, the Quotient is 6, the Fathoms in an hundred Weight. And so for a 3 Inch Rope, 3 times 3 is 9, by which divide 486, the Quotient is 54 Fathom to an hundred Weight, as in the Table; and where there is a Fraction in the Division, it may be reduced to Feet and Inches; 6 Feet being a Fathom, and 12 Inches a Foot.

A TABLE shewing the Weight of any Cable or Rope of 120 Fathom in Length, and for every half Inch from 3 Inches to 24 in Circumference.

I.	C.	Q.	I.	C.	Q.
3	2	1	14	49	0
3½	3	0	14½	52	2
4	4	0	15	56	1
4½	5	0	15½	60	0
5	6	1	16	64	0
5½	7	2	16½	68	0
6	9	0	17	72	1
6½	10	2	17½	76	2
7	12	1	18	81	0
7½	14	0	18½	85	2
8	16	0	19	90	1
8½	18	0	19½	95	0
9	20	1	20	100	0
9½	22	2	20½	105	0
10	25	0	21	110	1
10½	27	2	21½	115	2
11	30	1	22	121	0
11½	33	0	22½	126	2
12	36	0	23	132	1
12½	39	0	23½	138	0
13	42	1	24	144	0
13½	45	2			

I chose to instance in a Cable of the Length above-mentioned, because Yarn set at 200 Fathom, will, in the laying of a Cable, work up or shorten to 120 Fath. Cable-laid Ropes working in about two Parts in five; but if it is a half Cable, or a Part of a Cable of any other Length, the Weight of 120 Fathom being found by the Table, the Weight of any lesser Part is easily found in Proportion to its Length.

Example

Example of the Use of the TABLE.

The first Column marked *I.* for *Inches*, is the Thickness or Circumference of the Cable to every half Inch from 3 to 24; the second and third, marked *C. Q.* for *Hundreds* and *Quarters*, are the Hundreds and Quarters that it will weigh if 120 Fathom in Length. As for Instance, suppose a Cable of fourteen Inches and an half; look against 14 in the 4th Column, and you find against it in the other Columns 52½; which shews that 120 Fathom of Cable of 14 Inches and an half about, will weigh 52 Hundred 2 Quarters, or 52 Hundred and an half; and so in others. And any of a lesser Length will weigh in Proportion.

The Construction of this Table is from hence, that as all Cables are Solid Bodies, and may properly come under the Denomination of Cylinders; and as such the Weight of Cables of any determinate Length will be in proportion to the Squares of their Circumferences. From this Foundation, and my own Experience, I have formed this General brief Rule, *viz. Multiply the Thickness of the Cable by it self, and one Fourth of that Product is the Weight of 120 Fathom.* As for Instance; suppose a Cable of 12 Inches, 12 times 12 is 144, the Quarter of which is 36, the Weight of 120 Fathom of a Cable of 12 Inches; as you see in the Table.

Note. This Table gives the utmost Weight of Cables of the Length and Size proposed, and something, tho' inconsiderably, differs from the foregoing. As for instance; in the foregoing Table 6 Fathom of a 9 Inch Rope makes an Hundred Weight, and consequently 120 Fathom should be just 20 hundred Weight, but in this it makes 20 Hundred and 1 Quarter; but the Difference is inconsiderable, and the Cables never exceed the Weight here proposed.

A

L I S T

O F H I S

MAJESTY'S Royal Navy, 1744.

<i>Seven First Rates, 850 highest, 750 lowest Number of Men, 100 Guns.</i>			Built	Re-built.	Tuns
ROYAL Anne	—	—	—	1741	1870
Britania	—	—	1682	1719	1894
Royal George	—	—	—	1715	1801
London	—	—	1670	1721	1711
Royal Sovereign	—	—	1664	1701	1883
Victory	—	—	1663	1737	1920
Royal William	—	—	1692	1719	1918

Thirteen Second Rates, 750 highest, 660 lowest Number of Men, 90 Guns.

Barfleur	—	—	1697	1706	1565
Blenheim Hospital	—	—	—	1709	1557
Duke	—	—	1682	1739	1625
St. George	—	—	1622	1740	1623
Prince George	—	—	—	1723	1586
Marlborough	—	—	—	1732	1567
Namure	—	—	1697	1729	1567
Neptune	—	—	1683	1730	1572
Prince	—	—	1697	1741	1623
Ramilies	—	—	—	1741	1623
Princess Royal	—	—	—	1741	1570
Sandwich	—	—	1679	1715	1573
Union	—	—	—	1725	1578

Six

Sixteen Third Rates, 600 highest,
520 lowest Number of Men,
80 Guns.

	Built	Re-built.	Tuns
Princess Amelia			1352
Boyne	1692	1739	1390
Cambridge	1694	1715	1286
Princess Caroline	1697	1730	1353
Chichester	1694	1706	1278
Cornwall	1692	1726	1350
Cumberland	1695	1739	1400
Devonshire	1692	1741	1400
Dorsetshire	1694	1712	1283
Lancaster	1693	1722	1366
Newark	1695	1717	1282
Norfolk	1693	1728	1393
Russel	1692	1735	1250
Shrewsbury	1694		1314
Somerset	1698	1731	1354
Torbay	1690	1719	1296
Princessa 650 Men, 70 Guns, taken	1741		1714

Twenty-four third Rates, 480 highest, 410 lowest Num-
ber of Men, 70 Guns.

Bedford	1698	1741	1224
Berwick	1723	1741	1146
Buckingham	1699	1731	1128
Burford	1679	1722	1146
Captain	1678	1741	1224
Edinburgh		1741	1119
Elizabeth	1679	1737	1224
Essex	1679	1741	1224
Prince Frederick		1739	1224
Grafton	1679	1709	1133
Hampton Court	1678	1709	1137
Ipswich	1694	1730	1142
Kent	1697		1130

Lenox

<i>THIRD RATES.</i>			Built	Re-built.	Tuns
Lenox	_____	_____	1678	1721	1128
Monmouth	_____	_____	1666	1741	1224
Nassau	_____	_____	1699	1740	1224
Northumberland	_____	_____	1705	1741	1224
Royal Oak	_____	_____	1674	1741	1224
Prince of Orange	_____	_____		1734	1128
Orford	_____	_____	1698	1712	1099
Revenge	_____	_____	1699	1741	1224
Sterling Castle	_____	_____	1679	1741	1224
Suffolk	_____	_____	1680	1739	1224
Yarmouth	_____	_____	1741		1224

Thirty Fourth Rates, 400 highest, 340 lowest Number of Men, 60 Guns.

Augusta	_____	_____			1068
Canterbury	_____	_____	1693	1722	964
Centurion	_____	_____		1732	1005
Defiance	_____	_____	1666	1707	949
Deptford	_____	_____	1688		951
Dragon	_____	_____	1647		1068
Dreadnought	_____	_____	1653	1741	1068
Dunkirk	_____	_____	1651	1734	965
Exeter	_____	_____	1697	1741	1068
Jersey	_____	_____	1654	1719	1068
Kingston	_____	_____	1696	1740	1068
Princess Louisa	_____	_____	1732		
Lyon	_____	_____	1709	1738	1068
Princess Mary	_____	_____	1704	1741	1068
Medway	_____	_____	1693	1741	1068
Montague	_____	_____	1675	1716	920
Nottingham	_____	_____	1703	1741	1068
Pembroke	_____	_____	1704	1733	956
					Plymouth

FOURTH RATES.			Built	Re-built.	Tuns
Plymouth	_____	_____	1653	1722	954
Rippon	_____	_____	1713	1730	1021
Rupert	_____	_____	1665	1740	1068
Strafford	_____	_____	1714	1735	1068
Sunderland	_____	_____	1693		
Superb	_____	_____	1721	1736	1068
Tilbury	_____	_____	1600		
Warwick	_____	_____	1699	1733	951
Weymouth	_____	_____	1693	1736	1068
Windfor	_____	_____	1695		
Worcester	_____	_____	1608	1735	1068
York	_____	_____	1680	1706	987

*Thirty-four Fourth Rates, 300 highest, 250 lowest
Number of Men, 50 Guns.*

Advice	_____	_____	1712		714
St. Albans	_____	_____	1706	1737	853
Antelope	_____	_____	1703	1741	853
Argyle	_____	_____	1711	1722	764
Assistance	_____	_____	1650	1725	750
Bristol	_____	_____	1711		
Chatham	_____	_____	1694	1721	756
Chester	_____	_____	1708	1744	
Colchester	_____	_____	1694		
Dartmouth	_____	_____	1698	1741	853
Falmouth	_____	_____	1693	1729	761
Faulkland	_____	_____	1702		
Glocester	_____	_____	1717	1736	856
Greenwich	_____	_____	1711	1730	758
Guernsey	_____	_____	1696	1740	853
Hampshire	_____	_____	1697	1741	853

Leopard

<i>FOURTH RATES.</i>			Built	Re-built.	Tons
Leopard	—	—	1658	1741	853
Litchfield	—	—	1694	1730	756
Newcastle	—	—	1702	1732	756
Nonfuch	—	—	1696	1741	853
Norwich	—	—	1693	1718	703
Oxford	—	—	1674	1727	767
Panther	—	—	1703	1716	716
Portland	—	—	1652	1722	772
Preston	—	—	1693	1741	853
Rocheſter	—	—	1692	1717	719
Romney	—	—	1694	1726	756
Ruby	—	—	1651	1708	707
Salisbury	—	—	1695	1726	756
Severn	—	—	1695	1739	853
Sutherland	—	—	1704	1741	853
Tyger	—	—	1681		
Wincheſter	—	—	1606	1717	711
Woolwich	—	—	1675	1741	853

*Twenty-five Fifth Rates, 250 higheſt, 210 loweſt
Number of Men, 40 Guns.*

Adventure	—	—	1692	1741	678
Angleſea	—	—	1694	1742	678
Diamond	—	—	1651	1741	678
Dover	—	—	1654	1740	678
Eltham	—	—	1736		678
Feverſham	—	—	1712	1740	678
Folkſtone	—	—	1709	1740	678
Fowey	—	—	1709		528
Gosport	—	—	1706	1741	678
Haſtings	—	—	1707	1741	678

Hector

FIFTH RATES.

	Built	Re-built.	Tuns
Hector	1702		
Kingsale	1700	1741	678
Larke Hulk	1700	1726	598
Launceston	1741		678
Liverpool	1736	1741	678
Loo	1741		678
Ludlow Castle		1722	595
Lynn	1696	1741	678
Mary Gally	1687	1708	595
Pearle	1708	1726	595
Roebuck			595
Saphire	1708	1741	678
South-Sea Castle	1696	1724	553
Torrington		1729	595

Thirty-three Sixth Rates, 150 highest, 120 lowest
Number of Men, 20 Guns.

Alderney	1732	1742	430
Aldborough	1705	1727	375
Biddeford	1740		430
Blandford	1719	1741	375
Bridgwater	1698	1740	430
Deal Castle	1706	1727	375
Dolphin		1731	428
Dursley Gally	1708		372
Experiment	1680	1740	430
Flamborough	1706	1727	377
Fox	1702	1740	430
Garland	1703	1724	375
Gibraltar	1711	1727	375

All that carry 9 Pounders have 160 Men.

E

Greyhound

<i>SIXTH RATES.</i>	Built	Re-built.	Tuns
Greyhound	1719	1741	371
Kennington		1736	429
Lively	1713	1740	430
Leostaffe		1723	378
Lyme	1702	1740	430
Phœnix	1671		
Port Mahon	1711	1740	430
Rose	1712	1740	430
Rye	1740		430
Scarborough	1740		430
Seaford	1697	1741	430
Sea-Horse	1701	1727	375
Sheernefs	1690		
Shoreham	1695	1720	379
Solebay	1694	1741	430
Squirrel	1704	1727	376
Success	1740		430
Tartar	1702	1734	430
Wager, lost in the South-Sea			558
Winchelsea	1694	1640	430
Royal Caroline, 70 Men 10 Guns	1700	1733	216

Fourteen FIRE SHIPS.

	Built	Re-built.	Tuns	Men	Guns
Anne Gally	1739		302	55	8
Ætna			183	45	8
Blaze	1693		181	45	8
Cumberland			181	45	8
Duke, burnt with the <i>Span. Gal.</i>			199	45	8

Eleanor

<i>FIRE-SHIPS.</i>	Built	Re-built.	Tuns	Men	Guns
Eleanor	1739		192	45	8
Firebrand	1694		221	45	8
Mercury			217	45	8
Phaeton			214	45	8
Albrough		1742		45	8
Scipio			170	45	8
Strombolo			216	45	8
Success	1712		275	55	8
Vesuvius			199	45	8
Vulcan			253	45	8

Fourteen BOMB SLOOPS.

Carcass					
Furnace					
Basilisk	1695				
Blast					
Lightning					
Salamander	1730				
Terrible	1690				
Thunder	1718				
Granado	1741				
Firedrake	1741				
Mortar	1741				
Serpent	1741				
Terror	1741				
Comet	1741				

As Bombs

As Sloops

60

100

8C.

14S.

2M

10C.

14S.

<i>Twenty-one Sloops.</i>	Built	Re-built.	Tuns	Men	Guns
					C. S.
Baltimore	1742			100	14.14
Bonnetta	1732		200	100	8.12
Cruizer	1721	1732	200	100	8.12
Deptford			146	85	
Drake	1705	1741	200	85	
Fly	1732		200	100	8.12
Grampus, lost	1731		160	85	
Hawke	1741		200	95	8.12
Hound	1732		200	95	8.12
Otter	1721		91	55	14.14
Pembroke Prize			196	80	8.12
Rupert's Prize			142	95	14. 8
Saltaſh	1732		200	105	14.14
Shark	1732		200	85	8.12
Spence		1730	207	105	8.12
Spy	1732		200	85	8.12
Swift	1740		200	95	8.12
Tryal	1701	1732	200	70	8.12
Wolf		1731	200	70	14.14
Royal Escape		1714	73	30	
Peregrina				80	8.12

Three STORE-SHIPS.

Aſtræa				120	24
Deptford	1735		678	120	24
Portsmouth	1741			120	24

Three

Three HOSPITAL SHIPS.

	Built	Re-built	Tuns	Men	Guns
Princess Royal				92	18
Scarborough	1739			92	18
Sutherland				92	18

Seven YACHTS.

Royal Caroline				70	10
Katherine	1674	1720	161	40	8
Charlotte	1710		153	40	8
Dublin	1709		148	50	12
Fubbs	1701	1724	151	40	8
Mary	1677	1727	160	40	8
William and Mary	1694		151	40	10

Five small YACHTS.

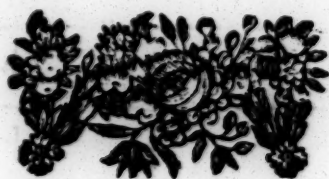
Bolton	1709		43	12	6
Chatham	1716		60	6	4
Drake	1705	1741		4	6C. 4S.
Portsmouth	1702		50	5	4
Queenborough	1701	1718	46	7	6

E 3

DIMEN₂

The Diameter of a round Shot is one Fourth less than the Gun's Bore. Powder in 5 or 6 successive Firings is reduced to one Third Weight of the Shot.

Na- ture of Shot	Dia- meter of the Bore.	Pounds of Pow- der for			Length of the		Breadth of	
		Proof	Service.	Sca- ling.	La- dles.	Car- tridge	La- dles.	Car- tridge
<i>poun- ders</i>	<i>Inches.</i>				<i>In ches.</i>	<i>In- ches.</i>	<i>In- ches.</i>	<i>In- ches.</i>
42	7	24	17	3 $\frac{1}{4}$	22 $\frac{1}{2}$	16	15 $\frac{1}{2}$	21
32	6 $\frac{5}{8}$	20	14	2 $\frac{3}{4}$	22	14 $\frac{1}{2}$	12 $\frac{1}{2}$	19
24	5 $\frac{3}{4}$	17	11	2	22	14 $\frac{1}{2}$	12	16 $\frac{3}{4}$
18	5 $\frac{1}{8}$	14	9	1 $\frac{1}{2}$	22	15 $\frac{1}{2}$	11	16 $\frac{1}{2}$
12	4 $\frac{1}{2}$	10	6	1	20	16 $\frac{1}{2}$	11 $\frac{1}{2}$	13 $\frac{1}{2}$
9	4 $\frac{1}{8}$	9	4	$\frac{3}{4}$	20	17 $\frac{1}{2}$	9	13
6	3 $\frac{1}{2}$	6	3	$\frac{1}{2}$	16 $\frac{1}{2}$	14 $\frac{1}{2}$	8 $\frac{1}{2}$	10 $\frac{1}{2}$
3	2 $\frac{1}{8}$	3	1 $\frac{1}{2}$	$\frac{1}{4}$	14	11	6 $\frac{1}{2}$	7 $\frac{3}{4}$



A N ESTABLISHMENT O F SEA-WAGES,

And of the Number of Officers allow'd to

His Majesty's SHIPS.

	<i>Per Diem.</i>
	l. s. d.
1. THE Pay of the Admiral and Commander in Chief of the Fleet, is	} 5 0 0
Of an Admiral ——— ——— ———	3 10 0
Of a Vice Admiral ——— ——— ———	2 10 0
Of a Rear Admiral ——— ——— ———	1 15 0

2. The first Captain to the Admiral and Commander in Chief of the Fleet shall have the Pay of a Rear Admiral. The second Captain to the said Admiral, and the Captains to other Admirals shall be allowed the Pay of Captain of a first Rate.

3. The Captains to Vice-Admirals shall be allowed the Pay of a second Rate, and the Captains to Rear-Admirals the Pay of a Third Rate. But if a Vice or Rear-Admiral serves in a Ship of the first or second Rate, the Captain shall have the proper Pay of the Ship.

4. The

4. Flag-Officers are to give Certificates to their Captains of the Number of Days they have served under them, that they may be paid accordingly.

5. *Pay of the Secretaries or Clerks of Flag-Officers, for themselves, under Clerks, the Physicians, &c.*

		<i>l.</i>	<i>s.</i>	<i>d.</i>
	The Admiral of the Fleet <i>per An.</i>	300	0	0
To the Secretary of	The Admiral of the White or Blue commanding in Chief	200	0	0
	A Vice or Rear-Admiral commanding in Chief	150	0	0
	A Commander in Chief with a Captain under him	100	0	0
To the Clerks of	The Admirals of the White and Blue not having the chief Command	100	0	0
	Vice and Rear Admirals	50	0	0
To the Physician, when any, <i>per Day</i>		1	0	0
To the Deputy Treasurer, when any		0	6	8
To a Deputy-Judge Advocate, when Courts-Martial require his Assistance <i>per Day</i> , during the Time the Court subsists		0	8	0
To a Provost-Marshal in the like Case		0	4	0
To a School-master, the Pay of a Midshipman according to the Rate, and <i>per Year</i>		20	0	0

6. The Wages of other Officers, and of Seamen, with the Number of Officers allowed to a Ship of each Rate, is settled as follows.

Officers

The Seaman's Vade-mecum.

59 A TABLE of the Officers Titles, Number and Wages in each Rate, according to the present Establishment, per Month of 28 Days.

OFFICERS in	No. 1st Rate.		No. 2d Rate.		No. 3d Rate.		No. 4th Rate.		No. 5th Rate.		No. 6th Rate.	
	l.	s. d.	l.	s. d.	l.	s. d.	l.	s. d.	l.	s. d.	l.	s. d.
Captains	1	28 0 0	1	22 8 0	1	18 18 0	1	14 0 0	1	11 4 0	1	8 8 0
Lieutenants	6	7 0 0	7	0 0 0	4	5 12 0	3	5 12 0	3	5 12 0	1	5 12 0
Masters	1	9 2 0	8	0 0 0	6	0 0 0	0	0 0 0	5	2 8 0	4	0 0 0
Second Ditto, and Pilot of the Yachts	0	3 10 0	0	0 0 0	0	0 0 0	0	0 0 0	0	0 0 0	0	0 0 0
Masters Mates	6	3 6 0	4	3 0 0	3	2 16 0	2	2 10 0	2	2 0 0	2	2 0 0
Midship-men	24	2 5 0	24	2 0 0	16	1 17 6	10	1 13 9	6	1 10 0	4	1 10 0
School-masters	0	0 0 0	0	0 0 0	1	1 17 6	1	1 13 9	1	1 10 0	0	0 0 0
Captains Clerks	1	2 5 0	2	0 0 0	1	1 17 6	1	1 13 9	1	1 10 0	1	1 10 0
Quarter Masters	8	1 15 0	15	0 0 0	6	1 12 0	4	1 10 0	3	1 8 0	2	1 6 0
Quarter Masters Mates	6	1 10 0	6	1 10 0	4	1 8 0	4	1 8 0	3	1 6 0	2	1 5 0
Boat-swains	1	4 0 0	1	3 10 0	1	3 0 0	2	2 10 0	1	2 5 0	1	2 0 0
Boat-swains Mates	4	1 15 0	4	1 15 0	2	1 12 0	2	1 10 0	1	1 8 0	1	1 6 0
Yeomen of the Sheets	4	1 12 0	4	1 10 0	4	1 8 0	2	1 8 0	1	1 6 0	1	1 6 0
Cox-swains	1	1 12 0	1	1 10 0	1	1 8 0	1	1 8 0	1	1 6 0	1	1 6 0
Master Sailmakers	1	1 15 0	1	1 15 0	1	1 15 0	1	1 14 0	1	1 12 0	1	1 10 0
Sailmakers Mates	1	1 8 0	1	1 8 0	1	1 8 0	1	1 8 0	1	1 8 0	1	1 8 0
Sailmakers Crew	2	1 5 0	2	1 5 0	2	1 5 0	2	1 5 0	1	1 5 0	1	1 5 0
Gunners	1	4 0 0	1	3 10 0	1	3 0 0	1	2 10 0	1	2 5 0	1	2 0 0
Gunner's Mates	4	1 15 0	4	1 15 0	2	1 12 0	1	1 10 0	1	1 8 0	1	1 6 0
Yeomen of the Powder-room	2	1 15 0	2	1 15 0	2	1 12 0	1	1 10 0	1	1 8 0	1	1 6 0

Quarters

OFFICERS.

	No. 1st Rate.		No. 2d Rates.		No. 3d Rate.		No. 4th Rate.		No. 5th Rate.		No. 6th Rate.	
	l.	s. d.	l.	s. d.	l.	s. d.	l.	s. d.	l.	s. d.	l.	s. d.
Quarter Gunners one to four Guns	0	1 6 0	0	1 6 0	0	1 5 0	0	1 5 0	0	1 5 0	0	1 5 0
Armourers	1	1 5 0	1	1 5 0	1	1 5 0	1	1 5 0	1	1 5 0	1	1 5 0
Gunsmiths,	1	1 5 0	1	1 5 0	0	0 0 0	0	0 0 0	0	0 0 0	0	0 0 0
Carpenters	1	4 0 0	1	3 10 0	1	3 0 0	1	2 10 0	1	2 5 0	1	2 0 0
Carpenters Mates	2	2 0 0	2	2 0 0	1	1 16 0	1	1 14 0	1	1 12 0	1	1 10 0
Carpenters Crew	12	1 6 0	10	1 6 0	8	1 5 0	6	1 5 0	5	1 5 0	4	1 5 0
Purfers	1	4 0 0	1	3 10 0	1	3 0 0	1	2 10 0	1	2 5 0	1	2 0 0
Stewards	1	1 5 0	1	1 5 0	1	1 5 0	1	1 3 4 0	1	1 0 8 0	1	1 0 0 0
Stewards Mate	1	1 0 8	1	1 0 8	1	1 0 8	1	1 0 8	1	1 0 8	1	1 0 0 0
Cooks	1	1 5 0	1	1 5 0	1	1 5 0	1	1 5 0	1	1 5 0	1	1 4 0 0
Surgeons	1	5 0 8	1	5 0 8	1	5 0 8	1	5 0 8	1	5 0 8	1	5 0 0 0
Surgeons first Mates	5	2 10 0	4	2 10 0	3	2 10 0	3	2 10 0	2	2 10 0	1	2 10 0 0
Ditto second Mates	5	2 0 0	4	2 0 0	3	2 0 0	3	2 0 0	2	2 0 0	0	0 0 0 0
Ditto third, fourth, and fifth Mates	5	1 10 0	4	1 10 0	3	1 10 0	3	1 10 0	2	1 10 0	0	0 0 0 0
Master at Arms	1	2 5 0	1	2 0 0	1	1 17 6	1	1 13 9 1	1	1 10 0 1	1	1 10 0 0
Corporals	2	1 15 0	2	1 12 0	2	1 10 0	2	1 10 0	2	1 8 0 1	1	1 6 0 0
Trumpeters	1	1 10 0	1	1 8 0	1	1 5 0	1	1 5 0	1	1 5 0	1	1 4 0 0

The Seaman's Vade-mecum.

Fire-ships at 5th Rates Pay.	No. Officers.	Hospital Ships at 5th Rates Pay, No. Officers.	Store Ships, at 5th Rates Pay, No. Officers.	Sloops, of 100 to 60 Men, at 6th Rates Pay.	Bomb-Vessels and Sloops, of 50 to 40 Men, ditto.	Yachts of 50 Men, ditto Pay,	Yachts of 40 to 30 Men, ditto.
Captains. —	1	—	1	1	1	1	1
Lieutenants. —	0	1	1	1	1	1	1
Masters —	1	1	1	0	0	0	0
Masters Mate —	1	1	1	1	1	1	1
Midshipmen —	2	2	2	2	1	1	1
Captain's Clerk —	1	1	1	1	1	1	1
Quarter-Masters —	2	2	2	2	1	1	1
Quarter-Masters Mate —	1	1	1	1	0	1	1
Boatwain —	1	1	1	1	1	1	1
Boatwains Mate —	1	1	1	1	1	1	1
Coxswain —	1	1	1	1	0	0	0
Master-Sail-maker —	1	1	1	1	1	1	1
Sail-makers Crew —	1	1	1	1	0	0	0
Gunner —	1	1	1	1	1	1	1
Gunners Mate —	1	1	1	1	1	1	1
Yeoman of Powder-room —	1	1	1	1	0	1	0
Quarter-Gunners —	0	0	2	1	0	0	0
Armourer —	1	1	1	1	1	1	1
Carpenter —	1	1	1	1	1	1	1
Carpenters Mate —	1	1	1	1	1	1	1
Carpenters Crew —	1	1	2	2	1	0	0

[illegible]

Fire-ships at 5th Rates Pay.	Hospital Ships at 5th Rates Pay, No. Officers,	Store-ships, at 5th Rates Pay, No. Officers.	Sloops, of 100 to 60 Men, at 6th Rates Pay.	Bomb-Vessels and Sloops, of 60 to 40 Men, ditto.	Yachts of 60 Men, ditto Pay.	Yachts of 40. to 30 Men, ditto.
No. Officers.						
1 Stewards —	1 —	1 —	1 —	1 —	0 —	0 —
Cooks —	1 —	1 —	1 —	0 —	0 —	0 —
Surgeons —	1 —	1 —	1 —	1 —	1 —	1 —
Surgeons second Mates —	4 —	1 —	1 —	0 —	0 —	0 —
1 Corporals —	0 —	1 —	1 —	0 —	0 —	0 —

The following Company are allowed at 1*l.* 4*s.* 0*d.*
per Month each, viz.

The following Company are
allowed at 1*g*s.** per Month
each, viz.

Midshipman Ordinary
Cook's Mate
Cockswain's Mate
Yeomen of the Boat-
swain's Room

Swabber
Cooper
Able Seamen
Captain's Cook
Ordinary Trumpeter

Chaplain
Ordinary Seamen
Shifter
Barber
Gunner's Taylor

Flag-

7. Flag Officers are to commence Pay from the Date of their Commissions or Orders to repair to their Squadrons, and continue in Pay to the Day that they strike their Flag by Order, or that it is signified to them, the Expedition is ended.

8. Captains and Lieutenants are to commence Pay from the Date of their Commissions, unless they are appointed in the Place of an Officer removed, who is to enjoy his Pay, until he is relieved by his Successor.

9. A Lieutenant succeeding to the Command of the Ship, upon the Death of the Captain in Foreign Parts, is to receive the Pay and Allowances of a Captain, until he is superseded by another Captain appointed to command her.

10. All Commissions to Captains and Lieutenants are to be entered in the Navy-Office.

11. Commission or Warrant-Officers quitting their Employments Abroad, without such Reasons as shall be satisfactory to the Lord High Admiral, or Lords Commissioners of the Admiralty, will be dismissed from the Service.

*Of the Number of Men, or Servants allowed to
Officers.*

1. **W**HEN the Lord High-Admiral goes to Sea in Person, there is allowed him such a Number of Men, or Servants, above the Complement of the Ship, as he thinks proper, in Regard to the Dignity of his Office.

	<i>Men</i>
2. The Admiral and Commander in Chief of } the Fleet, is allowed _____	50
Admirals _____	30
Vice Admirals _____	20
Rear Admirals _____	15

3. Out of which Number there may be born on the Ship's Books, as Servants, *viz.* *Servants.*

To the Admiral and Commander in Chief } of the Fleet _____	16
To Admirals _____	12
To Vice and Rear Admirals _____	10

4. There is allowed to the Captain of every Ship four Servants in every Hundred Men of the Complement. To a Lieutenant, Master, Second Master, Purser, Surgeon, Chaplain, and Cook, in all Ships down to 60 Men inclusive, each one Servant. And to the Boatswain, Gunner, and Carpenter, in all Ships down to 100 Men inclusive, each two Servants.

5. The Allowances of Men or Servants to Flag Officers, are to be reckoned over and above the Complement of the Ship ; but the Servants of Captains, and all other Officers, are to be included in it.

6. No Servant is allowed to any Officer on the Ship's Books, who is under thirteen Years of Age, unless he be the Son of the Officer, and he not to be under eleven.

7. No Servants are allowed to such Warrant Officers, who by the Constitution of the Navy, are standing in the Ship, and are allowed Servants in Ordinary

dinary, but who are bound to them by Indenture for at least five Years, the said Indentures to be inrolled in the Navy-Office.

8. All Officers are directed to conform themselves to these Regulations ; and not by Misratings, or collusive Powers, to receive the Wages of any more than their proper Servants.

Of TABLE-MONEY.

1. **T**HE Admiral and Commander in Chief of the Fleet is allowed twenty Shillings a Day for his Table, both in Home and Foreign Voyages.

2. Admirals, and Vice-Admirals, are allowed the same Table-Money, when they command in Chief.

3. The Allowance of Table-Money to the Admiral and Commander in Chief of the Fleet, doth begin and end with his Sea-Pay ; and to the others, from the Date of their Commissions or Orders to command in Chief, to the Day of the Expiration of that Command.

Of the Lord High-Admiral.

THE Lord High-Admiral of *England*, is one of the great Officers of the Crown, and is entrusted with the Management of all *Maritime Affairs*, as well in Respect of Jurisdiction as Protection. He is that high Officer to whom is committed the Government of the *Royal-Navy*, with Power of Decision in all

Cases Maritime, as well Civil as Criminal ; of all Transactions upon or beyond the Sea, in any Part of the World ; all things done upon the Sea-Coast, in all Ports or Havens, and upon all Rivers below the first Bridge next towards the Sea. He hath a Power to Commissionate all Officers for the Sea-Service, and to grant Letters of Marque to Privateers, in Order to make Reprizals upon the Subjects of any Prince or State, against whom War is declared. To him appertain all Penalties and Amercements of Transgressors at Sea, on the Sea-shore, and in Ports from the first Bridge on Rivers towards the Sea ; also the Goods of Pirates, Felons, or Captial Faulters, Condemn'd or Outlaw'd, and all Waifs, stray Goods and Wrecks of the Sea, whether *Lagon*, *Fletson* or *Jetson* ; that is, Goods lying in the Sea on Ground, Goods floating on the Sea, and Goods cast out by the Sea on the Shore, provided they do not appertain to the Lord of the Manor.

For the transacting of all *Maritime* Affairs, this Lord High-Admiral hath Courts of his own, whereof that at *London* is the Principal. In this Court, called the *Court of Admiralty*, all Proceedings are carried on, and determined by the Civil Law, because the Sea is without the Limits of the Common-Law : And for the due and regular Administration of Justice in this Court, as also for the good Government and Regulation of the *Royal-Navy* in General, he hath under him a great Number of Officers of different Qualities and Degrees ; some at Sea, others at Land ; some of a Military, others of a Civil Capacity ; some Judicial, others Ministerial : So that the Dominion and Jurisdiction of the Sea, may justly be stiled another *Common-Wealth* or *Kingdom* apart ; and the *Lord High-Admiral* of *Great-Britain* may fitly be stiled, or at least reputed, as a *Vice-Roy* of the *Maritime Kingdom* of *Great-Britain*.

Between

Between the Common-Law of *England* and the Admiralty, there seems to be a *Divisum Imperium*, for in the Sea, so far as the Low-water Mark is observed, that is counted *Infra Corpus Comitatus adjacentis*, and Causes thence arising, are determinable by the Common-Laws; yet when the Sea is full, the *Admiral* hath Jurisdiction there also (so long as the Sea flows) over Matters done between the Low-water Mark and the Land.

Under this Court there is also a Court of *Equity*, for determining Differences in Mercantile Affairs.

This *High-Office* is of so great Trust and Advantage, that it is seldom granted to any single Person, unless to some Prince of the Blood; or to some Prime Nobleman, in Consideration of his eminent Services; therefore it is generally executed by Commissioners appointed by the *Crown*, for the most part consisting of seven in Number, under the Title of *Lords Commissioners* for executing the Office of *Lord High-Admiral of Great-Britain*; in the Appointment of whom the greatest Care is taken to constitute Persons of known Integrity, and sufficient Ability to discharge this grand Office, from whence is derived (under his most GRACIOUS MAJESTY) the great Spring that moves the whole Machinery of *Royal-Navigation*, which is the Bulwark and Safeguard of the *British* Subjects at Home, and the Envy and Terror of their Enemies Abroad.

Of Rank and Command.

1. **T**HE established Number of Flag-Officers of the Navy, is as follows, *viz.* one Admiral and Commander in Chief of the Fleet; one Admiral of the *White*, and one Admiral of the *Blue*; one Vice-Admiral of the *Red*, one of the *White*, and one of the

the *Blue* ; one Rear-Admiral of the *Red*, one of the *White*, and one of the *Blue*. And no Brevet Commissions are allowed.

2. Admirals, Vice and Rear-Admirals, Captains and Lieutenants, are to Rank in their respective Classes, according to the Seniority of their Commissions.

3. When there is a sufficient Number of Flag-Officers together, all Councils of War are to be held by them only. The first Captain to the Admiral of the Fleet, is on such Occasions to be esteemed as a Rear-Admiral, and take Place at all Councils of War, and also at Courts-Martial, next to the Junior Rear-Admiral.

4. But if the Number of Flag-Officers be less than three, the Commander in Chief shall call to Councils of War, such of the senior Captains as he shall in his Discretion think necessary, of whom his own Captain is to be one.

5. None are to have the Rank of Captains, who have not commanded a Frigate of twenty Guns, or more.

6. Commanders of Fireships, Sloops, Yachts, Bomb-Vessels, Hospitals, Storeships, and other Vessels, though they may have commanded Ships of Post before, are to be commanded by Junior Captains in Ships of Post, while they keep Company together, either in Port, or at Sea ; but without Prejudice to their Seniority afterwards.

7. When any Flag-Officer, or Captain, shall meet at Sea, or in Foreign Parts, with a Superior or Senior Officer, he is to acquaint him with the Orders he is under ; and if such Officer shall take upon him to give him other Orders for His Majesty's Service, he must obey them.

8. No

8. No Superior or Senior Officer may detain a Junior, or give him any Delay, or divert him from pursuing his Instructions, unless it shall be absolutely necessary for His Majesty's Service ; and in such Case he shall send by the first Opportunity, a Copy of the Orders he has given him, with his Reasons for so doing, to the Secretary of the Admiralty.

9. In the Absence of the Captain of any of His Majesty's Ships, the eldest Lieutenant shall have Charge of the Ship, and be answerable for the Duty of the Captain. If there be no Lieutenant, the Master shall command, after him the Second Master ; but if by Loss in Battle, or other Accident, all these Officers shall be wanting, the Command shall devolve in Succession, upon the Boatswain, Gunner, Carpenter.

Of the Flag-Officer.

1. **T**HE Flag-Officer, or Commander in Chief, is to inform the Secretary of the Admiralty of all his Proceedings which relate to the Service, for the Information of the Lord High Admiral, or Lords Commissioners of the Admiralty.

2. He is likewise to correspond with the several Publick Offices, about such Matters as relate to them, and to send an Account to them, as well as to the Admiralty, of all Directions given by him, which concern the said Offices.

3. He is never to give Orders to any Captain to bear Supernumeraries, unless there be just Cause for it, which is to be expressed in the Body of the Order ;
and

and he is to inform the Secretary of the Admiralty when he gives such Orders, and of his Reasons for so doing.

4. When he is at Sea, he is frequently to exercise the Ships under his Command, and draw them into Lines of Battle, when the Weather is fair, and the same can be done without Interruption to the Voyage.

5. He is to visit the Ships of his Squadron or Division, and view the Men on Board, and see them mustered, as often as he shall think necessary.

6. When he is in Foreign Parts, where Naval or other Officers, are established, he is to conform himself, as much as possible, to the standing Rules of the Navy, in such Directions as he shall have Occasion to give them; and never to put them upon any extraordinary Expences, unless the Service shall absolutely require the same.

7. He is never to interest himself in the Purchase of any Stores or Provisions in Foreign Parts, where there are proper Officers appointed for that Service, except there shall be an absolute Necessity to make Use of his Credit or Authority, to procure such Provisions or Stores as are wanted; but in that Case he shall not be so concerned, as to have any private Interest in the same.

Of Courts-Martial.

1. **A**LL *Courts-Martial* are to be held, Offences tried, Sentence pronounced, and Execution of such Sentence done, according to the Articles and Orders contained in an Act of Parliament, made in the thirteenth Year of the Reign of King *Charles* the Second, Entitled, *An Act for the Establishing Articles and Orders for the Regulating and better Government of His Majesty's Navy, Ships of War, and Forces by Sea.*

2. All General Powers for holding *Courts-Martial*, are in Force only during the Voyage.

3. The said Court to be assembled in the Forenoon, and in the most publick Place of the Ship, where all who will may be present; and the Captains of all His Majesty's Ships in Company (which take Post) have a Right to assist thereat.

4. All Complaints are to be made in Writing to the Commander in Chief (unless where he shall see Cause of himself to assemble the same) in which are to be set forth the Facts, Time, Place, and the Manner how they were committed. And if any Captain (entitled by his Rank to sit in the Court) be personally concerned in the Matter to be tried, he is not admitted to sit at the said Trial.

5. The

5. The Judge Advocate is to examine Witnesses upon Oath, and (by Order of the Commander in Chief) to send an attested Copy of the Charge, to the Party accused.

6. Every Matter in this Court is to be determined by a Majority of Voices; the youngest Officer to vote first, and so proceed up to the President.

Of Ceremony and Respect.

1. **A**LL Flag-Officers are to be received on Board His Majesty's Ships, with a Guard under Arms, and Beat of Drum, according to the following Method, *viz.*

2. For the Admiral, or Flag-Officer commanding in Chief, a March. For an Admiral, three Ruffles. For a Vice-Admiral, two. For a Rear-Admiral, one.

3. When any of the foregoing Officers pass by any of His Majesty's Ships, with their Flags at the Head of their Boats, the like Ceremony is to be observed respectively by the Ships which they pass by.

4. The first Captain to the Admiral, and Commander in Chief of the Fleet or Squadron, is to be received on Board by a Guard, without Beat of Drum.

Of

Of Colours.

1. **O**FFICERS are forbidden to wear any other Flag or Pendant, but what belongs to their proper Rank, except when His Majesty or any of the Royal Family are on Board.

2. If an Officer wearing a Flag or broad Pendant, be slain in Battle, the Flag or Pendant shall not be taken in whilst the Enemy is in Sight ; but Notice shall be immediately given to the Admiral who commands in Chief, and also to the Flag-Officer of the Squadron he belonged to ; and when the next commanding Officer repairs on Board he shall leave his own Flag or broad Pendant flying in his own Ship.

3. The Admiral of the Fleet, Admiral of the White and Blue, and Vice-Admiral of the Red, may carry their proper Flags at the Head of their Boats ; but there must be a white Ball in the Flag of the Rear-Admiral of the Red : A blue Ball for the Vice of the White : And two blue Balls for the Rear of the White : A white Ball for the Vice of the Blue : And two white Balls for the Rear of the Blue : The said Balls to be in a Canton, at the upper Corner of the Flag next the Staff.

4. Merchant Ships are to wear a red Ensign with the Union-Jack in a Canton, at the upper End next the Staff ; and a white Jack with a red St. George's Cross passing quite thro' the same.

5. Privateers are to wear the same Ensign as Merchants Ships, and a red Jack with the Union-Jack in a Canton, at the upper Corner next the Staff.

6. Ships in the Service of any Publick Office, are to wear the same Ensign and Jack as Privateers, with this Addition, that in the Body of the Jack or Ensign, shall be described the Seal of the Office they belong to.

7. Merchant Ships, or Ships employed in the Service of any publick Office, or in raising Seamen, are not to wear Pendants, or any thing that may be taken for them : And if any Ship shall wear Flags, Pendants, or Colours they have not a Right to, the Commanders of such Ships are liable to be prosecuted in the High-Court of Admiralty, and the Flags, &c. so worn may be seized.

8. All Foreign Ships riding in any of His Majesty's Ports or Roads with false Colours, are to be admonished, and if they persist therein are liable to be put under an Arrest.

Of the Appointment of Officers in Foreign Parts.

1. **C**ommanders in Chief having Power to appoint Officers in Ships under their Command, are not to execute that Power while within the Channel.

2. None are to be preferred to Lieutenants, but such as have pass'd their Examination ; which if not already done at the *Navy-Office*, the Commander in Chief may authorize any three of his principal Commanders to examine them ; and if they have served six Years at Sea, two of the said six rated as Midshipmen or Mates, produce regular Journals, good Certificates, and are not under twenty Years of Age, they may be preferred.

3. Second

3. Second Masters are to be provided for first, according to their Seniority and Qualification, before any new one is made, and Commanders in Chief may appoint such of their Officers as are Members of the *Trinity-House*; or if none, each of their Commanders or Masters, as they think proper, to examine Masters or Mates; and according to their Certificates may promote them to any Vacancies in the Voyage; but at their Return Home, they are to be re-examined before the Corporation of *Trinity-House*.

4. Surgeons and their Mates, must be examined by some of the principal Surgeons of the Fleet or Squadron, if they have not already pass'd their Examination at *Surgeon's-Hall*; and must be preferred to such Ships only, as they are qualified for by their Certificates: If a Physician is in the Fleet, he shall preside at the Examination; but on their Return Home, must be re-examined before the Governors of the *Surgeon's Company*.

Of SALUTES.

1. **W**HEN a Flag-Officer salutes the Admiral and Commander in Chief of the Fleet, he is to give him fifteen Guns; but when Captains salute him, they are to give him seventeen Guns.

2. The Admiral and Commander in Chief of the Fleet is to return two Guns less to Flag-Officers, and four less to Captains.

3. Flag-Officers saluting their superior or senior Officers, are to give them thirteen Guns.

G 2

4. Flag-

4. Flag-Officers are to return an equal Number of Guns to Flag-Officers, bearing their Flags on the same Mast, and two Guns less to the rest, as also to Captains.

5. When a Captain salutes an Admiral of the White or Blue, he is to give him fifteen Guns; but to Vice and Rear-Admirals, thirteen Guns.

6. When a Flag-Officer is saluted by two or more of His Majesty's Ships, he is not to return the Salute till all have finished, and then to do it with such a reasonable Number of Guns as he shall judge proper.

7. In Case of the meeting of two Squadrons, the two Chiefs are only to Exchange Salutes. And if single Ships meet a Squadron consisting of more than one Flag, only the principal Flag is to be saluted.

8. No Salutes are to be repeated by the same Ships, unless there has been a Separation of six Months at the least.

9. Captains are not to salute one another. A Flag Officer commanding in Chief, upon the first hoisting his Flag, is to be saluted by all the Ships present, with such a Number of Guns as are prescribed in the above Regulations.

10. Foreigners meeting with any of His Majesty's Ships within His Majesty's Seas, as far as *Cape Finis-terra*, are expected to take in their Flag, and strike their Top-sail; but on Refusal are to be compelled to it, and not to suffer any Dishonour to be done to His Majesty.

II. His

11. His Majesty's Subjects are also to strike their Top-sails in passing by any of His Majesty's Ships, and on Omission, the Master of such Ship is liable to be proceeded against in the *High-Court of Admiralty*.

12. His Majesty's Ships are not to strike to any ; and that in other Parts, no Ship of His Majesty's is to strike her Flag or Top-sail to any Foreigner, unless such Foreign Ship shall have first struck, or at the same time strike her Flag or Top-sail to His Majesty's Ship.

13. Upon all Occasions Flag-Officers and Commanders of His Majesty's Ships, are to maintain His Majesty's Honour, give Protection to his Subjects, encourage them in their lawful Commerce ; and not to injure his Friends and Allies.

14. A foreign Admiral shall receive Gun for Gun ; if he be a Vice-Admiral, the Admiral is to return two less ; if a Rear-Admiral, the Admiral and Vice-Admiral shall return two less. If the Ship be commanded by a Captain only, the Flag-Officers shall return two less, and Captains an equal Number.

15. Any of His Majesty's Ships coming to an Anchor in a foreign Port or Road, within Cannon Shot of its Forts, the Captain may salute the Place with such a Number of Guns as hath been customary, on good Assurance of having the like Number returned, but not otherwise.

16. But if the Ship bears a Flag, the Flag-Officer is first carefully to inform himself, how Flags of like Rank, belonging to other Crown'd Heads, have given or returned Salutes, and then to insist upon the same Respect.

17. Admirals, Commanders in Chief, or Captains of Ships of War of foreign Nations, foreign Noblemen or Strangers of Quality, also the Factories of the King's Subject, coming on Board to visit the Ship, may be saluted by the Commanders of His Majesty's Ships, with a Number of Guns at Discretion, suitable to the Occasion, and Quality of the visiting Persons; but such Commander is nevertheless accountable for any Excesses in the Abuse of this Liberty; but if any Commander or Senior Captain be present, his Leave and Consent must first be had.

18. Merchant Ships, whether Foreigners or Subjects, saluting the Admiral of the Fleet, are to be answered by six Guns less; from other Flag-Ships by four less; and from Captains by two less.

19. If several Merchant Ships salute in Company, no Return is to be made, till all have finished, and then by such a Number of Guns as shall be thought proper; but though the Merchant Ships should answer, no second Return is to be made.

20. Dukes or Ambassadors at coming on Board, and also at their Departure, are to be saluted with fifteen Guns; other publick Ministers or Persons of Quality with eleven, or less according to the Degree of their Quality. But nothing is here to be understood to restrain Commanders in their Respect to any of the Royal Family, who are always to be saluted at the Discretion of the Commander in Chief.

21. The Anniversary Days of the Birth, Accession and Coronation of the *King*, the Birth of the *Queen*, Restoration of King *Charles* the Second, and *Gunpowder-Treason*, are to be solemnized by His Majesty's Ships

Ships, if they are in Port, with such a Number of Guns as the chief Officer shall think proper, not exceeding twenty-one each Ship.

22. His Majesty's Ships of War are not to salute His Majesty's Forts or Castles in *Great-Britain* or *Ireland*.

23. When a Flag-Officer or a Commander in Chief dies at Sea, or in a Road, at the putting off the Corps into the Sea, or carried ashore, the Commanding Officers shall cause such a Number of Guns to be fired, Funeral-wise, from the Ships in Company, as he shall think proper, and the Flag to be struck half Mast.

24. At the Funeral of a Captain dying at Sea or in a Road, the Commander in Chief shall appoint such a Number of Guns as he shall think fit, not exceeding twenty, to be fired from the Ship he commanded, and the Pendant to be lowered down.

25. At the Funeral of a Lieutenant, dying as before, there shall be fired, from the Ship he belong'd to, three Vollies of small Arms, by Direction of the Commander in Chief.

26. No Merchant Ship is to fire Guns in any Road or Port, after the Watch is set, if any of His Majesty's Ships be there.

Of the Captain or Commander.

- I. **W**HEN a Captain or Commander receives a Commission to command one of His Majesty's

iefty's Ships, he is immediately to repair on Board, and visit her throughout.

2. He is to give his constant Attendance on Board, and quicken the Dispatch of the Work ; and send to the *Admiralty* and *Navy-Offices* Weekly Accounts, or oftner if necessary, of the Condition and Circumstances she is in, and the Progress made in fitting her out.

3. He is not to lie out of the Ship, unless by Leave from the Admiralty or Commander in Chief.

4. When he cannot personally apply to the Commissioners of the *Navy*, he is to do it in Writing.

5. He is to apply to the *Navy-Board*, for an Account of the Qualities of the Ship ; but if a new Ship, to advise with the Master Shipwright who built her.

6. He is to take Inventories of all the Stores committed to the Charge of his Officers respectively, and to require from his Boatswain, Gunner, Carpenter, and Purser, Counterparts of their respective Indents.

7. He is to cause his Clerk to be present, and to take an Account of all Stores and Provisions that come on Board, and when ; which Accounts he is to compare with the Indents, in Order to prevent any Fraud or Neglect.

8. He is to keep Counter-books of the Expence of the Ships Stores and Provisions, whereby to know the State and Condition of the same ; and to audit the Accounts of the Officers entrusted herewith, once a Week, in Order to be a Checque upon them.

9. He

9. He is to use his best Endeavours to get the Ship Mann'd, and not to enter any but Men of able Bodies and fit for Service ; he is to keep the established Number of Men compleat, and not to exceed his Complement.

10. He is to keep a regular Muster-Book, setting down therein the Names of all Persons entered to serve on Board, with all Circumstances relating to them.

11. He is to be present at all Musters, and to make the same Remarks on his own Books against the Mens Names, as the Clerk of the Checque, or Muster Master do.

12. He is to demand from the Clerk of the Checque at the Port where the Ship is, before she departs from his District, a perfect Muster-Book.

13. He is himself to Muster the Ship's Company at least once Week in Port, or at Sea where there is no Clerk of the Checque, and to be very exact in this Duty ; and if any Person shall absent himself from his Duty, without Leave for three successive Musters, he is to be marked as a Run-away on the Ships Books.

14. He is to send every two Months, two Muster Books compleat to the *Navy-Office*, signed by himself and the Officers who sign Tickets.

15. He is to make a List of such Seamen as are Run, inserting the same at the End of the Muster Books, and to distinguish the Time, Manner, and by what Opportunity they made their Escape.

16. If

16. If the said Difertion happens in any Port of this Kingdom, he is to send up to the Secretary of the *Admiralty*, their Names, Description, Place of Abode, and all the Circumstances of their Escape.

17. He is to make out Tickets for all such Seamen as shall be discharged from his Books, which are to be signed by himself, the Master, Boatswain and Purser; and the Gunners and Carpenters are to sign for their respective Crews. He is to deliver the Ticket to none but the Party; and if he be dead or Absent, he is to send the Ticket forthwith to the *Navy-Office*.

18. If the Ship be in *Great-Britain* or *Ireland*, he is every Month to send to the *Admiralty-Office*, a List of all Men discharged in the preceeding Month, with the Reasons thereof: nor is he to discharge any Man but for one of the following Reasons, viz. Death, Preferment in some other of His Majesty's Ships, Unfitness for Service, Officers Servants rated, or by Admiralty Order, or Commander in Chief; and to express the Cause upon the Ticket.

19. He is not to suffer the Ship's Stores to be misapplied or wasted, and if such Loss happens by the Negligence or Wilfulness of any of the Ships Company, he is to charge the Value thereof against the Wages of the Offender, on the Muster and Pay-Books.

20. He shall make no Alteration in any Part of the Ship.

21. He is to keep Centinels constantly posted at the Scuttles leading into all the Store-Rooms, and no Person is to pass down, but by Leave from the Captain or Commanding Officer of the Watch, which Leave must

must be signified to the Centinel from the Quarter-Deck.

22. He is not to spare any Provisions or Stores to any of His Majesty's Ships, but where the Necessity is evident, and by the Direction of his Commanding Officer, and is also to give his Officers a Warrant in Writing for it.

23. He is to observe seasonable Times in setting up his Shrouds and other Rigging, especially when they are new and apt to stretch; and also to favour his Masts as much as possible.

24. Before the Rigging and other Stores are cast up, he is first to order a Survey thereof to be taken.

25. He is to cause such Stores as require it, to be frequently surveyed and aired, and their Defects repaired; and the Store Rooms to be kept airy, and in good Condition.

26. He is not to make Use of the Ship's Sails for covering Boats, or for Awnings.

27. The Decks or Gratings are not to be scraped oftner than is necessary; but are to be washed and swabbed once a Day, and Air let into the Hold, as often as may be.

28. He is to permit every Officer to possess his proper Cabin, and not to make any Variation therein.

29. No Person is to lie upon the Orlop, but by Leave from the Captain, who is to take all possible Care of the Cables.

30. Such

30. Such as smoke Tobacco, are to take it in the Forecastle, and in no other Place.

31. Care is to be taken every Night on setting the Watch, that all Fire and Candle be extinguished in the Cook-Room, Hold, Steward-Room, Cock-Pit, and every where between Decks ; nor are Candles to be used in any other Part of the Ship but in Lanthorns, and that also not without the Captain's Leave.

32. He is not to suffer any Person to futtle or sell any sort of Liquors to the Ships Company, nor any Debts for the same to be inserted in the Slop-Book, on any Pretence whatsoever.

33. Before the Ship proceeds to Sea, he is without Partiality or Favour, to examine and rate the Ship's Company, according to their Abilities ; and to take Care, that every Person in the Ship without Distinction, do actually perform the Duty for which he is rated.

34. Before the Ship sails, he is to make a Regulation for quartering the Officers and Men, distributing them to the great Guns, small Arms, Rigging, &c. and a List of such Order and Distribution is to be fixed up in the most publick Place of the Ship. He is also frequently to Exercise the Ship's Company in the Use of the great Guns and small Arms.

35. If any Officers are absent from their Duty when the Ship is under Sailing Orders, he is to send their Names to the Secretary of the *Admiralty*, with the Cause of their Absence.

36. He is to take Care of his Boats, and secure them before blowing Weather ; also the Colours are not to be

be kept abroad in windy Weather, but due Care taken of them.

37. He is not to carry any Woman to Sea, nor to entertain any Foreigners to serve in the Ship, who are Officers or Gentlemen, without Orders from the *Admiralty*.

38. When he is to sail from Port to Port in Time of War, or Appearance thereof, he is to give Notice to Merchantmen bound his Way, and take them under his Care, if they are ready ; but not to make unnecessary Stay, or deviate from his Orders on that Account.

39. He is to keep a regular Journal according to Form prescribed, and at the End of every six Months, he is to send a Copy of the same to the Secretary of the *Admiralty* ; and at the Expiration of the Voyage, to give in a general Copy, to the *Admiralty* and *Navy-Offices*.

40. He is, by all Opportunities, to send an Account of his Proceedings to the Secretary of the *Admiralty*, with the Condition of the Ship, Men, &c. he is likewise to keep a punctual Correspondence with every of the Publick Offices, in whatsoever respectively concerns them.

41. He is not to go into any Port, but such as are directed by his Orders ; unless necessarily obliged, and then not to make any unnecessary Stay. If employed in Cruizing, he is to keep the Sea the Time required by Orders, or give Reasons for acting to the contrary.

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42. He

42. He is to take great Care in the Choice of a good Birth, and examine the Quality of the Ground for Anchoring, where he is a Stranger.

43. He is not to obstruct *Custom-House* Officers in coming on Board, or in any Part of their Duty ; they are also to be victualled as the Ship's Company, if Necessity require it.

44. He is to demand all Seamen (His Majesty's Subjects) from on Board any Foreign Ship he may meet with, obliging the Masters to pay them their Wages to that Day.

45. In Foreign Parts, he is to use the utmost good Husbandry in careening the Ship, and not to do it, but under an absolute Necessity.

46. None are to be employed in Careening and Refitting the Ship but the Ship's Company, unless Sickness or Death hath rendered it necessary to hire others ; and for the Encouragement of his own Men, whether on Board their own, or any other of His Majesty's Ships, they are entitled to an extraordinary Allowance *per Day* ; and to prevent any Abuse herein, each Ship has the Number of operative Men limited.

47. If he is obliged to take up Money Abroad for the Use of the Ship, he is to negotiate it at the best Exchange.

48. He is to advise the proper Office of what Bills he draws, with the Reasons therefore, and with the said Bills send Duplicates of his Accounts, and Vouchers for his Disbursements.

49. He is to take Care that all Stores bought Abroad, be delivered to the proper Officers, and take their Receipts for the same.

50. Upon the Death of any Officer, he is to take Care that an Inventory be taken of all his Books and Papers, and that the same be sealed up, and reserved for the Use of such as shall have a legal Right to demand them.

51. When any Officer who has the Custody of Stores or Provisions, shall die, be removed or suspended, he is to cause an exact Survey and Inventory to be taken forthwith of the Remains of such Stores, which is to be signed by the Successor (who is to keep a Duplicate thereof) and also by the Surveying Officers.

52. Upon his own Removal into another Ship, he is to shew the Originals of all such Orders as have been sent to him, and remain unexecuted, to his Successor, and leave with him attested Copies of the same.

53. He is to leave with his Successor a compleat Muster-Book, and send up all the other Books and Accounts under his Charge, to the Offices they respectively relate to.

54. When a Captain is remov'd by Commission from one Ship into another, he is allowed to carry along with him the following Number of Men including his Servants, *viz.* From a first Rate, Eighty; a second Rate, Sixty-five; a third Rate, Fifty; a fourth Rate, Forty; a fifth Rate, Twenty; and a sixth Rate Ten.

55. In Case of Shipwreck or other Disaster, whereby the Ship may perish, the Officers and Men are to stay with the Remains as long as possible, and save all they can, and for their Encouragement they shall continue in Pay during their Attendance on that Service ; and if the Provisions of the Ship are lost, the Captain is to subsist them.

56. When the Ship comes to the Port where she is to be laid up, the Captain is to exhibit an exact Account of all the Qualities of the Ship, to the Commissioner of the *Navy* at that Port, and to transmit a Duplicate of the same to the *Navy-Board*.

57. He is to prepare five Pay-Books, with the Assistance of his Purser, and to transmit the same to the *Navy-Board*, signed by himself and signing Officers, who are to attend the Payment thereof.

58. He is not to depart, nor suffer the Officers or Men to go a-shore, until the Ship is wholly unrigg'd and clear, and to deliver her so into the Charge of the Officers of the Yard.

59. If there be Occasion to discharge any of the Men, when the Ship is under Orders to be paid off, they are to apply to a Flag-Officer, or to a Commissioner of the *Navy*, who will examine their Qualifications, if agreeable, to sign their Tickets, otherwise they will be paid Ordinary.

60. He is responsible for the whole Conduct, and good Government of the Ship, and for the due Execution of all Regulations, which concern the several Duties of the Officers and Company of the Ship, who
are

are to obey him in all things, which he shall direct them for His Majesty's Service.

61. He is also answerable for the Faults of his Clerk: Nor can he receive his Wages without the proper Certificates, and must make good all Damages sustained by his Neglect or Irregularity.

The LIEUTENANT.

1. **W**HEN he receives his Commission he is to repair on Board, and diligently execute all such Orders as he shall receive from his Commander, for His Majesty's Service, nor absent himself from the Ship without Leave.

2. He is to keep a List of the Officers and Men in his Watch, Muster them, and report the Names of the Absenters.

3. He is to see that good Order be kept in his Watch, that no Fire or Candle be burning, and that no Tobacco be smoked between Decks.

4. He is not to change the Course of the Ship at Sea, without the Captains Directions, unless to prevent an immediate Danger.

5. No Boats are to come on Board or go off, without the Lieutenant of the Watch being acquainted with it.

6. He is to inform the Captain of all Irregularities, and to be upon Deck in his Watch.

7. He is to see that the Men be at their proper Quarters in Time of Action; and that they do all perform their Duty.

8. He is to keep a Journal, and at the End of the Voyage, to deliver Copies thereof into the *Admiralty* and *Navy-Offices*.

9. The youngest Lieutenant is frequently to exercise the Seamen in the Use of Small Arms: And in time of Action he is to be chiefly with them.

10. He is to take great Care of the Small Arms, and see that they be kept clean and in good Condition for Service.

The MASTER.

1. **H**E is to repair on Board, and obey his Commanders Orders, for the Dispatch of what is to be done towards the fitting her out.

2. He is to inspect the Provisions and Stores sent a Board, and of what appears not good, he is to acquaint the Captain.

3. He is to take Care of the Ballast, and see that it be clean and wholesome, and sign the Quantity delivered.

4. He is to give his Directions in stowing the Hold, for the most Room, Trimming the Ship, and for Preservation of the Provisions.

5. He is to take singular Care that the Rigging and Stores be duly preserved; and to sign the Carpenter's
and

and Boatswain's Expence Book, taking Care not to sign to undue Allowances.

6. He is to Navigate the Ship, under the Directions of his superior Officer ; and see that the Log and Log-Book be duly kept.

7. He is duly to observe the Appearances of Coasts; and if he discovers any new Shoals or Rocks under Water, to note them down in his Journal, with their Bearing and Depth of Water.

8. He is to keep the Hawse clear when the Ship is at Anchor.

9. He is to provide himself with proper Instruments, Maps and Books of Navigation, and keep a regular Journal, noting therein the going out and coming in of all Stores and Provisions ; and when the Ship is laid up, he is to deliver a Copy of the same into the *Navy-Office*, together with his Log-Book.

10. He is to be very careful not to sign any Accounts, Books, Lists or Tickets, before he has thoroughly informed himself of the Truth of every Particular contained in the same.

The Boatswain and Master-Sailmaker.

1. **T**HE Boatswain is to receive into his Charge the Rigging, Cables, Cordage, Anchors, Sails, Boats, &c. by Indenture from the Surveyor of the *Navy*, and to use great Care in the Disposition of the same.

2. He

2. He is not to cut up any Cordage or Canvas, without an Order in Writing from the Captain, and under the Inspection of the Master ; and always to have by him a good Quantity of small Plats for Security of the Cables.

3. He and his Mates, are to assist and relieve the Watch, see that the Men attend upon Deck, and that the working of the Ship be performed with as little Confusion as may be.

4. His Accounts are to be audited and vouched by the Captain and Master, and presented to the Surveyor of the *Navy* ; and until such Accounts are passed, he is not to receive his Wages.

5. If he has Cause of Complaint against any of the Officers of the Ship, with Relation to the Disposition of the Stores under his Charge, he is to represent the same to the *Navy-Board* before the Pay of the Ship.

6. He is not to sign any Accounts, Books, Lifts or Tickets, before he has thoroughly informed himself of the Truth of every Particular therein contained.

7. The Master Sail-maker is to be warranted from the *Navy-Board*, without which none are to be rated in that Capacity.

8. He is, with his Mate and Crew, to examine all Sails that are brought on Board, and to attend all Surveys and Conversions of Sails.

9. He is always, and in due time to repair, and keep the Sails in Order and fit for Service.

10. He

10. He is to see that they are dry when put into the Store-Room, or very soon to have them taken up and aired; and see that they are secured from Drips, Damps, and Vermin.

11. When any Sails are to be returned into Store, he is to attend the Delivery of them, for their greater Safety.

The Gunner, Armourer, and Gunsmith.

1. **T**HE Gunner is to apply to the Store-Keeper of the Ordnance, and receive from him by Indenture the Ordnance, Ammunition, Small Arms, and other Stores allowed for the Voyage; and if any Part thereof be not good, he is to represent the same to the Captain.

2. He is to see that the Powder Rooms be well secured and in right Order before the Powder is brought in.

3. Powder is to be taken in at those Places which are appointed by the *Admiralty*.

4. The Powder in the Copper-hooped Barrels to be lodged in the Ground Tire; to see that the Doors of the Powder Rooms be fast locked, the Scuttles well shut and covered, and to deliver the Keys to the Captain.

5. He is timely to advise the Captain when any Powder comes on Board, nor is he to remove it, prepare Fuzees, &c. without the Captains Directions, so that Fire and Candles may be extinguished, Centinels posted, and all Care used to prevent Accidents.

6. He

6. He is not to go or send any one into the Powder Rooms, but by Leave from the Captain, and to take Care that they have nothing about them that will strike Fire in falling.

7. No more than three Rounds of Parchment Cartridges are to be filled at a time.

8. He may receive additional Stores, if the Ship is ordered to any Station in *America*; but none of those additional Stores are to be used, until the first are expended.

9. Perishing Stores are to be surveyed and condemned; but if near any Port in *England*, he is not to throw them over Board, but return them into Store.

10. Empty Powder Barrels are not to be staved, but preserved to shift such as may be decayed.

11. By Directions from the Captain, he is to allow a proper Quantity of Powder and Shot for Exercise.

12. The Proportion of Powder on the Occasion of Service or Scaling, he is to allow as *per* Regulations of the *Admiralty*.

13. In Time of Action, he is to reduce the Allowance of Powder by Degrees, until the same be lessened to one third of the Weight of the Shot. He is not to swab a Gun when it grows hot, for fear of splitting.

14. He is to take Care, that the Guns be placed upon their proper Carriages, for by this Means they will fit, and stand a proper Height from the Sill of the Ports.

15. He

15. He is not to Scale the Guns oftner than the Ship is refitted, unless upon extraordinary Occasions, and with the Captains Orders; and when they are loaded for Service, he to see them well tampion'd, and the Vents fidded with Ocham.

16. He is to use great Caution, in order to prevent Damage to such Guns as are struck into the Hold, by paying them all over with a Coat of warm Tar and Tallow mixt, &c.

17. He is to take Care of the Stores committed to him; for no waste that are not perishable, will be allowed him, only reasonable Wear; and if any Accident, it must be vouched by the Captain.

18. He is to keep a Book of Expences, according to the Methods prescribed by the *Admiralty*, and the Stores expended are not to be expressed in Figures, but in Words at Length.

19. He is to keep the Boxes of Grape Shot and Hand Granadoes.

20. He is to observe upon the Guns, the Notches or Sights on the Base and Muzzle Rings, for the better guiding the Aim.

21. He is not to load the Guns with unfit Mixtures, which do greatly endanger their splitting.

22. He is not to start the Hand Granadoes, but return what are left at the End of the Voyage, in *Statu quo*.

23. He

23. In cutting up the Cordage, he is to observe the prescribed Regulations, and when he discharges himself of the Cordage expended, he must charge himself with the Breachings, &c. into which it shall be converted ; the like Method must be used in the Conversion of any other Stores.

24. When the Ship wants new Supplies, he is to draw out an Account, with an Inventory of what remains, present the same to the Captain, which being by him vouched, must be sent to the *Board of Ordnance*.

25. An Abstract of his Accounts, he must also make out half yearly, according to the Method prescribed.

26. He is to keep good Order in the Gun Room, and suffer none to lie there but such as have a Right, or whom the Captain shall direct : and cause a careful Man of his Crew to watch there every Night.

27. He is to be frugal of his Match, to burn no more than is allowed, and that over a Tub of Water.

28. After an Engagement, he is to procure a Survey to be made of the Powder in general.

29. He is to keep an Inventory of all the Arms and Utensils sent out of the Ship, and get the same signed by the Officer appointed to command the Detachment, and witnessed by the Captain's Clerk.

30. When the Ship comes into the Port to be refitted, &c. he is to get the Ship cleared of the Guns, and other Ordnance Stores, as soon as possible.

31. He is to take Care that the Stores be safely returned, and he and the Armourer, are to attend the Store-keeper and other Officers belonging to the Ordnance

nance, when his Stores so returned are surveyed on Shore.

32. At the End of the Voyage, he is to deliver his Accounts into the *Office of Ordnance*.

33. If he has Cause of Complaint against any of the Officers of the Ship, with Relation to the Disposition of the Stores under his Charge, he is to represent the same both to the *Navy and Ordnance Boards*, before the Pay of the Ship.

34. No Person shall be warranted as Gunner, before he has pass'd an Examination before a Mathematical Master, and three able Gunners of the Navy, and from them produce a Certificate of his Qualification.

35. The Armourer and Gunsmith are appointed by Warrant from the Board of *Ordnance*.

36. They are to assist the Gunner, in the Survey and Receipt of the Small Arms, and to keep them clean and in good Order ; but not to take them too often to pieces, which is detrimental to the Locks, &c.

37. Their Station is in the Gun-Room, where they are to observe the Gunners Orders.

38. The Gunner is to receive the Armourers Tools from the Office of *Ordnance*, and is to Account for them at the End of the Voyage, in the same Manner as for the other Stores under his Charge.

39. In Foreign Parts, if the Small Arms want such Repairs as cannot be done Aboard, the Captain must cause a Survey, and the Defectives may be sent a Shore

to be repaired ; but the Armourer or Gunsmith must attend to see the Reparations well executed.

40. They are to return the Small Arms into Store, clean and in good Order ; and must produce Certificates (from the Officers of *Ordnance* where the Arms are returned) that they have discharged their Duty well.

The CARPENTER.

1. **H**E is to take upon himself the Care and Preservation of the Ships Hull, Masts, &c. and also the Stores committed to him by Indenture from the Surveyor of the *Navy*.

2. He is to visit and inspect all Parts of the Ship daily, to see that all things are well secured, caulked, order of the Pumps, and make Reports to the Captain.

3. In an Engagement he is to be watchful, and have all Materials ready to repair Damages.

The PURSER.

1. **H**E is to victual the Ship every three Days, or as frequently as may be in Petty-Warrant, when she is ordered to be fitted out for the Sea ; to see that she be duly supplied, and to take Care that no Part of the Sea Provisions be expended, while the Ship is in *Extra* Petty-Warrant.

2. He is to enter no Man on his Books, or supply him with Provisions, but by Note in Writing from the Clerk of the Checque, or the Commanding Officer on Board.

3 He

3. He is to take Care to indent in Time for, and get the full Quantity of Provisions, Water, Casks, &c. on Board.

4. He must take Care that the Provisions be good, and in sound Cask, or object against them, till a Survey is made ; he is also to take the Marks of the Casks, &c. that he may know from whom and from whence they came.

5. If the Ship cannot contain all her Provisions, he is to certify the same, and the Quantity short of each Species ordered, so that the Remainder may be supplied another Way.

6. He is to procure Certificates, under the Hands of the Commander and Master, of the Quantity of Provisions received into the Ship, or he will not be allowed to indent for the same.

7. He is not to discount any Part of the Credit on his Indents for Money ; nor indent for fresh Supplies before his Credit is satisfied.

8. He is to provide the Ship with Coals, Wood, Turnery-Ware, Candles, Lanthorns, &c. to enable him to do which, he is allowed Twelve-pence a Man *per* Month, whilst in *Extra* Petty-Warrant, and Fourteen-pence in Sea Victualling, unless the Complement be sixty Men or under, then Seventeen-pence a Man *per* Month during Sea Victualling. He is also allowed Four pence a Tun for Drawage of Beer, and Two-shillings a Month Loading Charges ; and if more than sixty Men, Ten groats a Month *Adz-Money*, all payable after signing his Indent.

9. He is to be careful to inspect the good Order, Stowage and Preservation of Provisions, and that the oldest be expended first.

10. If any of the Provisions be unfit for Use, he is to procure a Survey upon the same, by proper Officers, who are to make a regular Report thereof.

11. No Officers of the Ship are to be employed in the Survey, if any other Ships be in Company; and if the Ship be alone in a Port, where there are Naval Officers, the Captain is to join one to the Survey.

12. Condemned Provisions are not to be thrown over Board, except Cheese, if the Ship is at or near any Victualling Port, but the same is to be returned to the Agent: The same is to be done if the Ship is at Sea, and an Agent with Victualling Vessels be in Company; but if there be no Agent, or he shall refuse to receive them, he may then (by Warrant from the Commander in Chief, or from his own Captain, if the Ship be alone) cause the said Provisions to be flung over Board, taking a Certificate of the Quantity, and also an Account when, where, and from whom the said Provisions were received.

13. If Provisions shall be cast by Survey, after the time they were so cast, he is to expect no Allowance on such Surveys, with a satisfactory Certificate, why the said Provisions were not sooner expended.

14. Condemned Butter is never to be flung over Board, but returned into Store, unless the Boatswain shall want any for the Ship's Use, and then he must be charged therewith.

15. Leakage

15. Leakage of Beer must be surveyed, by Warrant from the Captain to the Master, and two (or more) Officers of the Ship, who are to report under their Hands on the Back of the said Warrant, the Quantity leaked out, and the Reasons and Occasion of the Leakage : The Cooper's Oath is also required hereto.

16. He is never to expect Allowance for Leakage of Wine, Oil, Brandy, Rum, or Arrack ; there being proper Conveniencies made in the Hold for securing the said Liquors from any Abuses whatsoever.

17. He is to transmit to the Commissioners of the *Visitualling*, Duplicates of all Orders, Reports, Certificates, &c. relating to Surveys attested, reserving the Originals in his own Hands, for the passing his Accounts.

18. If any Species fall short, and the Want thereof is supplied out of another Species ; when the Ship receives a Supply, he must re-place a like Quantity of the same Species taken away in lieu thereof, thereby to make no extraordinary Charge.

19. If a Cask of Beef, or Pork, fall short of the Contents marked on the Head, by Warrant from the Captain, he must have a Survey, and report the same, and either himself, or Steward, is to make Oath at the Foot of the Survey, to the Truth thereof ; and that none of the said Cask were opened, or any Pieces taken out, before the time of the Survey, to the best of their Knowledge. And after such a Discovery as this, it is expected, that an exact Account be exhibited of the Number of Pieces of Beef and Pork, in all the Cask that shall be expended.

20. He is not to sell, or make any undue Use of the Stores or Provisions under his Charge. And the more to discourage Purfers from Selling Provisions, it is hereby ordered, that in those Years where the Price of any Species shall exceed the Sum usually charged on Purfers in Debt, he shall be obliged to pay the full Value His Majesty gave for the Provisions.

21. He is not to purchase any Provisions where there is an Agent, or in the Way of one; but where there is no Agent, on Application, the Captain may cause the Remains to be Survey'd, and where there is real Want, by his Warrant the Purfer may procure the same. The Receipts of Payment are to be witnessed by two Commission or Warrant Officers, the Quantities and Prices are to be expressed; and he also must procure a Certificate from the Governor or Consul, where there are such, or else from two or three eminent Merchants, that the said Bargains were at Market Price.

22. He is to observe, that Storehouse Room and Commission Money will not be allowed in his Accounts. And Sloops and Boats never, but on an indispensable Necessity, and by his Commander's Orders; and then he must produce a Certificate, signifying the Occasion of their being hired.

23. If it is necessary for the Purfer to draw Bills of Exchange upon the Commissioners of the *Victualling*, the Money is to be taken up by Publication, and the Captain is to attest the Bills: The Purfer also must procure Certificates from the Governor, Consul, or Merchants, of the Currency of Exchange at that time, which he must transmit home with the Bills, and also an Account how the said Money has been laid out.

24. When

24. When he returns Home, he is to deliver into the *Victualling-Office*, an Account Current of all his Disbursements, for the Service of the Ship at large, and reduced into *English Coin*, with his particular Affidavit at the Foot of the Account.

25. If Water is wanted, and cannot be had without Money, he may (by Warrant from the Captain) purchase what is necessary, taking Receipts witnessed by two Commission or Warrant Officers, and a Certificate from the Captain, of the Quantity brought on Board.

26. The Purser shall employ his Cooper to repair defective Casks, where they cannot be returned into Stores, and that without making any Charge thereupon. He is also to keep a distinct Account of the wast Staves and Iron Hoops; and himself or Cooper, shall make Oath to the Truth thereof.

27. He is not to expend any Cask for *Extra Service*, without an Order from the Captain, and also a Certificate expressing the Quantity expended, when and for what Service: But he is to observe, that Casks used for washing Tubs, steep Tubs, &c. will not be allowed as an *Extra Expence*.

28. If Loss happens in Provisions or Stores, by Action with the Enemy, or other unavoidable Accident, he is to produce a Certificate from the Captain of what was so lost, with the Occasion; and himself or some other who was present, must make Oath, that it did not happen through any Neglect or Default.

29. He is to keep a very regular and exact Muster Book, and to set off against their Names the Slop Cloaths

Cloaths, Dead Men's Cloaths, Beds and Tobacco, they have been supplied with, in Order to be Voucher for the Tickets made out by the Captain for Wages. He is to note down also, the Times of Beginning and Ending Petty-Warrant or Sea-Victualling, Short Allowance, Nature and Quality of the said Allowance, and what has been paid on that Account,

30. He may at appointed Times, and in some publick Place, sell Tobacco to the Seamen, not exceeding two Pounds *per* Month to a Man, at the Rate settled by the *Navy-Board*.

31. He may not Victual Supernumeraries, but by Warrant from the Captain; and if the Captain has received Orders for so doing, the Purser must procure an attested Copy also of the said Orders; on the Back of the Warrant he is to enlist their Names, and at the Foot thereof to procure the Captain's Certificate.

32. When he Victuals other Ships Men, by Order, Re-payment must be made from the Purser of that Ship; and in Case of Refusal, he must send a List of the said Mens Names, and Time (certified by his Captain) to the *Victualling-Office*.

33. He is not to spare Provisions or Stores to other Ships, but by Warrant, and on the Back to take the Purser's or Steward's Receipt, mentioning the Quantity in Words at Length, Time when, and Place where, and to send a Copy of the said Receipt to the Commissioners of the *Victualling*.

34. He is to keep a sick Book, mentioning the Men's Names sent sick out of the Ship, their Number on the Ship's Book, when and where sent, Number of Days absent,

absent, which is to be delivered into the *Comptrollers Office*.

35. When the *Vittualling-Office* sends Vessels to bring away the Provisions from the Ship, the Purser is to send therewith his Steward, or some careful Person, to see their safe Delivery to the Officer appointed to receive them.

36. Each Butt when returned, if shaken, shall consist of twenty-six Staves; a Puncheon twenty-two; a Hoghead twenty; a Barrel seventeen, Heading included, two Pipes reckoned one Stave.

37. A regular Survey must be taken, before the Provisions are returned into Store, and the Purser must make an Affidavit, that the said Provisions were received out of His Majesty's Stores, or from Persons under Contract. The like Oath is to be made by him of all the Cask, Staves, Iron-hoops, and Bisket Bags returned to the Office. Provisions furnished under Warranty, such as Beer, Butter, and Cheese, he shall receive no Allowance for them, if they are cast by Survey after the Time of Warranty.

38. He is to pass his Accounts within six Months after the Ship is paid off at furthest; and at the same time to have his Affidavit ready touching every Particular relating to his Accounts.

39. If he has Cause of Complaint against any of the Officers of the Ship, with Relation to the Disposition of the Provisions or Stores under his Charge, he is to represent the same to the *Navy-Board*, before the Ship is paid off.

40. He

40. He is not to sign any Accounts, Books, Lists or Tickets, before he has fully informed himself of the Truth of every Particular contained therein.

The SURGEON.

1. **W**HEN a Surgeon is warranted, he is to provide Instruments and a Chest of Medicines, according to the Rules of the *Navy*; and the same must be viewed, examined and approved by the Physicians of the Sick and Wounded, or the Physician of *Greenwich-Hospital*, in Conjunction with the Governors of the Surgeons Company, who will give him a Certificate thereof.

2. When the Chest is recruited, the like Method is to be taken; and all such Medicines or Drugs, as shall be found in the Chest, not fit for Use, must be destroyed.

3. He is to provide himself with a competent Number of Printed Sick Tickets, from the *Sick and Wounded Office*.

4. He is to inspect and take Care of the Necessaries sent on Board for the Use of Sick Men, if not good, he must acquaint the Captain; And he must see that they are duly served out for the Relief of the Sick.

5. He is to visit the Men under his Care twice a Day, or oftner, if Circumstances require it; he must see that his Mates do their Duty, so that none want due Attendance and Relief.

6. In

6. In Cases that are difficult, he is to advise with the Physician of the Squadron.

7. He is daily to inform the Captain of the State of his Patients.

8. When the Sick are ordered to the Hospitals, he is to send with them to the Surgeon, an Account of the Time and Manner of their being taken ill, and how they have been treated.

9. He is to be ready with his Mates and Assistants in an Engagement, having all things at Hand necessary for stopping of Blood, and dressing of Wounds.

10. He is to keep a Day-Book of his Practice, containing the Names of his Patients, their Hurts, Distempers, when taken ill, when recovered, Removal, Death, Prescriptions, and Method of Treatment.

11. From the last Book he is to form two Journals, one containing his Physical Practice, the other his Chirurgical; which are respectively to be delivered in (at the End of the Voyage) to the Physician of the Sick and Wounded, or *Greenwich Hospital*, and to the Surgeons Company, in order to be examined.

The Master at Arms, and the Corporal.

1. **NONE** to be admitted a Master at Arms, but such as are appointed by Warrant from the *Admiralty*.

2. He

2. He is daily by turns (as the Captain shall appoint) to exercise the Petty-Officers and Ships Company, having a proper Allowance of Powder and Shot for that Purpose.

3. He is to place and relieve Centinels, to mount with the Guard ; to see that the Arms be kept in good Order, and to observe the Directions of the Lieutenant at Arms.

4. He is to see that the Fire and Candles are put out in proper Season, and according to the Captains Orders.

5. He is to visit all Vessels coming to the Ship, and prevent the Seamen going from the Ship without Leave.

6. He is to acquaint the Officer of the Watch with all Irregularities in the Ship, which shall come to his Knowledge.

7. The Corporals are to act in Subordination to the Master at Arms, and to perform the same Duty under him.

The SCHOOL-MASTER.

1. **B**Efore he is warranted, he must be examined before the Master, Wardens, and Assistants of *Trinity-House*, and from them produce a Certificate of his Qualifications ; he must also produce another from Persons of known Credit, testifying his Sobriety, &c.

2. He is duly to employ his time in instructing the Volunteers in Writing, Arithmetic, and Navigation, and

and in whatsoever may contribute to render them Proficients.

3. He is likewise to teach the other Youths of the Ship, according to such Orders as he shall receive from the Captain.

4. He is to be diligent in his Office, and such as are idle must be represented to the Captain for Correction.

5. He is not to receive his Wages or Allowances, without a Certificate from the Captain; nor be employed again, without depositing in the *Admiralty-Office* a like Certificate.

The C O O K.

1. **H**E is to have the Charge of the Steep-tub, and is answerable for the Meat put therein.

2. He is to see the Meat duly watered, and the Provisions carefully and cleanly boiled, and delivered to the Men according to the Practice of the Navy.

3. In stormy Weather he is to secure the Steep-tub that it may not be washed over Board; but if it should inevitably be lost, the Captain must certify it, and he is to make Oath to the Number of Pieces so lost, that it may be allowed in the Purser's Accounts.

Rules of Discipline and good Government.

1. **T**HE Commanders are to shew in themselves good Examples of Honour and Vertue; Vigilant in inspecting the Behaviour of others, suppressing all dissolute, immoral and disorderly Practices; and correct those who are guilty, according to the Usage of the Sea.

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2. They are to see that divine Service be performed twice a Day on Board, according to the Liturgy of the Church of *England*, and a Sermon on Sundays, unless bad Weather, &c. prevent it.

3. They are to punish Swearing, Cursing, or Blasphemy, by causing them to wear a wooden Collar, as long as they think fit, or any other shameful Badge. If he be a Commission Officer, he shall forfeit one Shilling for every Offence, and a warrant or inferior Officer Six-pence. A Seaman guilty of Drunkenness, shall be put in Irons till sober; but an Officer shall forfeit two Days Pay.

4. A Commander may not punish a Seaman beyond twelve Lashes on his bare Back, with a Cat of Nine Tails; but if the Fault deserve greater Punishment, he is to inform the Commander in Chief, or Secretary of the *Admiralty*, in Order for the Offender's being brought to a Court-Martial; in the mean time he may put him under Confinement.

5. A Captain is not to discharge a Commission or Warrant Officer, nor punish, nor strike him; but if he be disobedient, behave ill, or unfit for Duty, he may suspend or confine him, till Information can be given as above, for a Court-Martial.

6. No Officer under the Captain is allowed to inflict Punishment, but the Commanding Officer (in the Captain's Absence) may confine an Offender, till the Captain's Return.

7. Articles of War are to be hung up in some public Place of the Ship, and read to the Ship's Company once a Month.

Rules for the Cure of Sick and Hurt Seamen on Board their own Ships.

1. **I**N every Ship convenient Room must be made between Decks, for the Reception of the Sick or Hurt Seamen.

2. The Captain is to appoint some of the Ships Company, by turns, to serve the Sick Night and Day, and keep the Place clean.

3. By the Captain's Orders, the Cooper may make Buckets out of old Staves and Hoops; and the Carpenter, Cradles for the Use of the Sick, and those who have fractured Bones.

4. When ever possible, fresh Fish is to be caught, for the Use of the Sick; and if any *Surplus*, the same shall be distributed by turns, among the Officers and Seamen impartially, and that without any Deduction of their Allowance of Provisions.

Rules for sending Sick or Hurt Seamen out of their own Ships for Cure.

1. **N**ONE are to be sent into Hospitals, either attending the Fleet or a Shore, but whose Distempers or Hurts are such, as may render it inconvenient to have them kept on Board their own Ships.

2. They must be sent a Shore with their Cloaths, Bedding, and a Ticket, expressing their Names, Entry and Numbers, on the Ships Books, with the Quality of their Disease or Hurt.

3. The Captain may order the Purser to supply them Slops, if they want such Necessaries.

4. They are to be sent a Shore, under the Charge of a discreet Officer, and the Surgeon or one of his Mates, that they be carefully landed, and conveyed with proper Carriages, at the Expence of the Hospital.

5. A Commission-Officer is to go to the Hospital twice a Week (on Muster-Days) to receive such of his Men as are recovered. He may also receive such other recovered Men (whose Ships are not in the way) as the Agent shall desire.

6. The Captain is to receive such recovered Men, as the Agent shall send to him, though the Ship be at a Distance, unless they be unserviceable; if so, must give the said Men a Certificate of his Refusal.

7. If the Captain, receiving such recovered Men, shall meet with the Ship they belong unto, he is to return them; but if that Ship have her full Complement, he is to enter them as a Part of his, if he want Men, or dispose of them where they may be wanted; bearing Wages from the time they were received from Sick Quarters.

8. Agents may supply sick Men with necessary Cloaths if their Ship is out of the Way, (whilst in Quarters) of which he is to certify the Captain.

9. If such as are discharged from sick Quarters, do not return on Board directly, a *Query* is to be put against their Names, as a Stoppage to the Payment of Wages, unless they prove that they were not able to get on Board their own Ship, and entered on some other

other in the *Royal Navy* immediately, or were discharged as unfit for Service.

10. Captains are to correspond with the Commissioners of the Sick and Wounded, concerning the State and Condition of his sick Men.

11. Commanders in Chief, and the Commissioner of the *Navy* at the Ports where Hospitals are erected, are to visit them frequently, in Order to hear Complaints, and redress Irregularities and Grievances.

12. The Captain is to take Care of the sick Men in Foreign Parts, where there are none of His Majesty's Hospitals, or Correspondents of the Sick and Wounded Office to take Charge of them, and may draw Bills on the said Commissioners for the Expences; observing the Allowance by usual Establishment, as he will not be allowed any Exceedings.

Of the PROVISIONS.

1. **EVERY** Man to be allowed daily Provisions, as follows, *viz.*

Sunday. One Pound of Biscuit, one Gallon of Small Beer, one Pound of Pork, and half a Pint of Pease.

Monday. One Pound of Biscuit, one Gallon of Small Beer, one Pint of Oatmeal, two Ounces of Butter, and four Ounces of Cheese.

Tuesday. One Pound of Biscuit, one Gallon of Small Beer, and two Pounds of Beef.

Wednesday. One Pound of Biscuit, one Gallon of Small Beer, half a Pint of Pease, a Pint of Oatmeal, two Ounces of Butter, and four Ounces of Cheese.

Thursday. The same as *Sunday*.

Friday. The same as *Wednesday*.

Saturday. The same as *Tuesday*.

Hence the full Weekly Allowance *per* Man (besides fresh Fish caught, and distributed, without any Deduction for the same) is, *viz.*

Seven Pounds of Biscuit,	One Quart of Pease.
Seven Gallons of Beer,	Three Pints of Oatmeal,
Two Pounds of Pork,	Six Ounces of Butter.
Four Pounds of Beef,	Twelve Ounces of Cheese.

2. Captains may shorten this Allowance, if Necessity require it, taking due Care that the Men be paid for the Deficiency ; nor is any Officer to have whole Allowance while the Company is at short.

3. In Foreign Voyages, some of the above Species may be changed, that is, half a Pint of Brandy, Rum, or Arrack, for a Gallon of Beer ; four Pounds of Flower, sometimes three Pounds, with a Pound of Raisins, or half a Pound of Currants, with half a Pound of Beef Suet pickled, are equal to a four Pound Piece of Beef, or two Pound Piece of Pork with Pease ; half a Pound of Rice for a Pint of Oatmeal ; a Pint of Olive Oil for a Pound of Butter, or two Pounds of *Suffolk* Cheese ; two thirds of a Pound of *Cheshire* Cheese for a Pound of *Suffolk*.

4. Beef is to be cut into four Pound Pieces, and Pork into two, and every Cask is to have the Contents thereof marked on the Head.

5. Every Twenty-eight Pieces of Beef cut for four Pound Pieces, taken out as they rise, and the Salt shaken off, are to weigh one hundred Pounds, *Avoirdupoise*,

poise, and every fifty-six Pieces of Pork, one hundred and four Pounds.

6. If there be a Want of Pork, the Captain may order three Pounds of Beef to be given out in lieu of two Pounds of Pork.

7. One Day in every Week, there shall be issued out a Proportion of Flower and Suet in lieu of Beef, but this is not to extend beyond four Months Victualling at one Time.

8. Only three Months Butter and Cheese shall be supplied for Foreign Voyages, the Remainder to be made up in Olive Oil.

9. One Tun of Iron Bound Cask for Water, and a Bundle of wooden Hoops, is allowed for every hundred Men *per* Month, in Home Voyages; but in Foreign Voyages, such farther Quantity as shall be thought necessary.

10. In Home Voyages, half the Proportion of Beer is to be contained in Iron-bound Cask, but in Foreign Voyages Three-Fourths; and every Cask is to have the Contents marked on the Head in Gallons, *Winchester* Measure.

11. To prevent the buying of Cask Abroad; all Cask (in Foreign Voyages) are to be new.

12. Provisions (if Necessity require it) may be supplied by Order of the Commander in Chief, to the Agent; and in urgent Cases, a Captain by his Warrant may supply the same.

13. The

13. Victualling Vessels consigned to one Ship, may not be stoppt by a Captain belonging to another, to take any Part of her Lading ; they are also to be unladen with Dispatch and sent away.

14. Provisions are to be sent on Board without Charge to the Purser ; and the Masters of such Vessels, are to see the same delivered into the Slings of the Ship they are consigned to, by careful Men ; and must also deliver to the Captain, a proper and perfect Bill of Lading.

15. If any Provisions slip out of the Slings, or are damaged thro' Carelessness, the Captain is to charge the Value against the Wages of the Offender.

16. No Provisions are to be refused, until the Captain or Commanding Officer shall cause the same to be Surveyed ; and if they then appear unfit for Use, he is to return them, together with the Original Survey.

17. Provisions are frequently to be inspected (in Foreign Voyages) and all proper Care taken for the Preservation thereof.

18. Provisions spared to another Ship in due Form, is to be made good by a new Supply from the Agent at the next Port, upon producing the proper Order.

19. Fresh Meat is to be allowed twice a Week (when it can be conveniently done) instead of salt Meat ; three Pounds of Mutton accounted for a four Pound Piece of Beef, or to a two Pound Piece of Pork with Pease.

20. Prize Provisions may be issued to His Majesty's Ships, if in Want, (and those good in their Kind) A
Survey

Survey being first regularly made ; but this is not to be done whilst any of the Ship's Provisions of the same Species are remaining.

Of Short-Allowance Money.

1. **T**HE Captain is to make out Short Allowance Lists, with the Assistance of the Purser ; which must be compared with the Muster and Sick Books, and signed by himself, the Purser, Master, and Boatswain, before they are sent to the Commissioners of the *Victualling*.

2. In Foreign Parts, the Short Allowance-Money is to be paid every three Months ; and where there is no Agent Victualler, the Purser by Warrant from the Commander in Chief, or senior Captain, may take up Money to discharge the same, upon the best Exchange, and draw Bills upon the Commissioners of the *Victualling*.

3. The Commander in Chief is to attest the Bills, certify the Exchange, comptrol the Payment, what Cash remains in Hand, and this Surplus is to be appropriated to the next or succeeding Payment.

4. If the Ship is alone, the Captain is directed to act as a Commander in Chief, or senior Captain.

5. The Purser, by the first Opportunity, is to send one List to the Commissioners of the *Victualling*, and by the next safe Conveyance, another.

6. The Ship's Company is to be paid their Short Allowance in *Sterling* Value, and to have the Benefit of the Exchange.

7. The

7. The buying of Short-Allowance Money, directly or indirectly, is strictly forbid ; and the Parties themselves are to be paid, without any Regard to Notes, or any other Obligation whatsoever.

Of S L O P C L O A T H S.

1. **W**HEN Slops are sent on Board, they must be compared with the Sample, by the Captain, Master, Purser and Boatswain, and such as do not agree in Goodness with the Pattern, are to be rejected.

2. If the Ship fails before the Examination can be made, and then any shall prove inferior in Goodness, they are to be returned, or proportional Abatement made in the Price.

3. Seamen (destitute of Necessaries) may be supplied with Slops as far as a Months Wages in time of Press.

4. None are to receive a second Supply, until they have served full two Months, and then not exceeding ten Shillings, and so in Proportion, ten Shillings more every two Months, if they shall be in Want.

5. Slops are to be issued out publicly ; and as the Captain is not to suffer those to be supplied who are not really in Want, so he is to oblige those who are ragged, or want Bedding, to receive such Necessaries as they want, not exceeding the Limits aforesaid.

6. The Captain is to keep a Slop-Book, according to Form prescribed, and before the Payment of the Ship,

Ship, or on his Removal, he is to send the same to the *Comptroller of the Navy*, duly signed.

7. On the Discharge of a Man by Ticket, the Value of the Cloaths he has been supplied with must be noted upon the same in Words at Length.

8. If Necessity require the buying of Cloaths in Foreign Parts, the Captain must procure them of the Kinds used in the Navy, and as moderate as possible; he must also (by the first Convenience) send an Invoice of the same to the *Navy-Board*.

9. Contractors for Slops, are to allow the Purser twelve Pence in the Pound for keeping their Cloaths and Accounts; but if any Disagreement arises, they may intrust their Goods with any other Officer in the Ship.

10. The Person who keeps the Slops, must give Bond to the Contractors for the faithful Discharge of his Trust; nor can he receive any Wages, without Certificates from them, that all Accounts are discharged.

11. All possible Care must be taken, that no more Beds be demanded than are necessary, and those answerable to the Contract.

12. When a Seaman dies on Board, his Cloaths, &c. may be sold by Auction, and the Produce charged against the Buyer on the Muster and Pay-Books; a particular Account of the same must also be kept in the Slop-Book. The Purser is to be allowed twelve Pence in the Pound for his Trouble, who is also to give the Executors, &c. of the Deceased a particular Account of the Cloaths sold, and to whom.

13. Seamen are not permitted to bid for the Cloaths of dead Officers, that are above their Wear, nor bid for Effects above their real Value, nor purchase more than their Wages can answer, agreeable to Allowance.

14. On the Death, &c. of a Purser, the Slops, Cloaths and Bedding remaining, are to be surveyed, and delivered to the Successor, by Inventory in due Form.

Of PILOTAGE.

1. SHIPS bound out of the *Thames*, or from the *Nore*, the Captain is to apply to the *Navy Board* for a Pilot, and not to employ any but such as are sent to him by the *Trinity-House*, but when a Ship is to depart from the *Downes* to the *Thames* or *Medway*, he is to employ one belonging to the Society of Pilots at *Dover*.

2. Captains are not to take Pilots unnecessarily, nor bear them longer than is necessary; and when discharged to give them Certificates.

3. When the constant Attendance of a Pilot is required on Board, he is to be so rated upon the Books, and born within the Complement.

4. The Master or Mate (with the Captain's Consent) may act as Pilot if none can be got; and for Encouragement shall have half a Pilot's Allowance.

Of

Of CONVOYS.

1. **A** Commander appointed to Convoy the Trade of His Majesty's Subjects, must give necessary and proper Instructions, in Writing, and Sign'd by himself, to all the Masters of Merchant Ships under his Protection.
2. He is take an exact List in proper Form, containing the Names of all the Ships and Vessels under his Convoy; and send a Copy thereof to the Secretary of the *Admiralty*, before he sails.
3. He is not to receive any Gratification, nor suffer any one else in the Ship so to do.
4. He is not to chase out of Sight of his Convoy, but be watchful to defend them from Attack or Surprise; and if distress'd, to afford them all necessary Assistance.
5. If the Master of a Ship shall misbehave himself, by delaying the Convoy, abandoning the same, or disobey the established Instructions, the Commander is to report him, with a Narration of the Fact, to the Secretary of the *Admiralty*.
6. He is to carry a Top-Light in the Night to prevent Separation.
7. The Commander in Chief may order his Signals to be repeated, by as many Ships of War under his Command as he shall think fit.
8. When different Convoys set sail at the same time, or join at Sea, they are to keep Company so long as
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their Courses lie together : And when it thus happens, the eldest Commander of a Convoy shall command in the first Post ; the next eldest in the second, and so on : Nor is any private Captain to take Umbrage hereat, as it is not intended to his Prejudice, but to preserve Order, while they are together.

9. Commanders of different Convoys are to wear the Lights of their respective Posts, and repeat the Signals in Order, as is done by Flag-Officers.

10. Convoys are to sail like Divisions, and proper Signals are to be made at Separation.

11. Commanders of Convoys are to take under their Care, all such Ships of His Majesty's Friends or Allies, whose Masters shall desire it, and those ready to sail.

Of PRIZES.

1. PRIZES are not to be broke open, but the Hatches are immediately to be spik'd up, and her Lading and Furniture secured from Imbezzlement, until condemn'd in the *Admiralty-Court*.

2. The Captain is to cause the Officers of the Prize to be examined, and three or more of the Company, who can give best Evidence, are to appear at the *Admiralty-Court* ; Likewise all Charterparties, Bills of Lading, &c. ought to be secured, and produced in Court.

3. Prisoners who are His Majesty's Subjects are to be strictly observed, their Names taken down in Writing, and the Circumstances of their being taken, &c.

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4. The said Prisoners are to be examined, together with his own Witnesses, before some Magistrate ; and Copies of their Declarations are to be sent to the Secretary of the *Admiralty*.

5. When a Privateer is taken, great Care must be had to secure the Ship's Papers, the Commission especially ; for if no legal Commission be found, they are to be committed as Pyrates.

6. Ships of War in His Majesty's Pay, are intituled to the sole Property of all their Prizes, after legal Condemnation ; but Privateers are to pay One-tenth Part to the *Admiralty*.

7. Officers and Seamen belonging to Privateers are intituled to the Profit of their Prizes, according to Contract made with the Owners.

8. Judges in the *Courts of Admiralty* Abroad, unnecessarily or wilfully delaying the Trial of Captures, are liable to the Forfeiture of five hundred Pounds.

9. The Charges for condemning any one Prize Abroad, shall not exceed ten Pounds, in Case such Capture be under the Burthen of one Hundred Tuns ; nor fifteen Pounds, for that or a greater Burthen.

10. Goods imbezzled on Board any Prize, the Author shall forfeit treble the Value.

11. Prizes are not exempted from the Payment of the National Customs and Duties ; and all Shares of Prizes not legally demanded in three Years, are appropriated to the Use of *Greenwich-Hospital*.

12. Five Pounds *per* Head Bounty-Money, is allowed for taking or destroying Men of War or Privateers belonging to the Enemy.

13. Goods belong to the Subjects of *Great-Britain*, if Re-taken from the Enemy, before they have been in their Possession Twenty-four Hours, the Owners are to allow One-eighth Part of the Value for Salvage; if above Twenty-four Hours, and under Forty-eight Hours, One-fifth Part thereof; if above that, and under Ninety-six Hours, One-third Part thereof; and if above that One-half, without any Deductions.

14. Offenders on Board Privateers, are to be punished as if on Board Ships of War.

15. No Privateer, &c. in *America*, is to take on Board any Servant, without the Consent of his Master; but shall duly observe the Laws of the Country.

Prizes taken by His Majesty's Ships of War, and Bounty for taking or destroying those of the Enemy, &c. are proportioned and distributed in the Manner following, viz.

1. **T**H E neat Produce of all Prizes taken by His Majesty's Ships of War, and Bounty-Money for Prisoners taken in such Prizes, is divided into Eight equal Parts, and distributed as follows.

2. To the Captain actually on Board at the time of taking any Prize, Three Eighths.

3. If taken by a Ship under Command of a Flag, that Flag-Officer is to have one of the said Eighth Parts, and the Captain the other two.

4. To

4. To the Captains of Marines, Land Forces, Sea-Lieutenants, and Masters, One-Eighth to be equally divided.

5. To Lieutenants and Quarter-Master of Marines, Lieutenants, Ensigns, and Quarter-Masters of Land Forces, Boatswain, Gunner, Purser, Carpenter, Master's Mates, Surgeons and Chaplains, One-Eighth.

6. To the Midshipmen, Master at Arms, Serjeants, of Marine and Land Forces, Carpenter's Mates, Boatswain's Mates, Gunner's Mates, Corporals, Yeomen of the Sheets, Coxswain, Quarter-Master, Quarter-Master's Mates, Surgeon's Mates, and Yeomen of the Powder-Room, One-Eighth.

7. To the Trumpeters, Quarter-Gunners, Carpenter's Crew, Steward, Cook, Armourer, Steward's Mate, Cook's Mate, Gunsmith, Cooper, Swabber, ordinary Trumpeter, Barber, able Seamen, ordinary Seamen, Volunteers by Warrant, and Marine or other Soldiers, (if any) Two-Eighths.

Any Officer on Board such His Majesty's Ships of War, having more Posts than one, is only intitled to the Share belonging to his superior Office, according to the Regulations aforesaid.

Commanders of Ships of War, taking any Prize, are to transmit (as soon as possible, to the Commissioners of the *Navy*) a true List of the Officers and Men actually on Board, at the taking of such Prize, inserting therein the Quality of every Person's Service; and this to be subscribed by themselves, and three or more of the chief Officers on Board.

The Commissioners of the *Navy*, or any three or more of them (on Condemnation of such Prize, are to examine the said List by the Ships Muster-Book, to see their Agreement; and are to grant Certificates of the Truth of such Lists to them transmitted, (if requested) to the Agents appointed by the Captures: Also are to give such Agents Lists from the Muster-Book, and to aid and assist them towards forwarding the Payments of the Shares.

The Rights and Privileges of Flag-Officers and Commanders, in Relation to Captures from our Enemies at Sea.

1. **A** Flag Officer commanding in Chief upon Service, shall have One-Eighth Part of all Prizes taken by Ships under his Command.
2. A Flag-Officer sent to command at *Jamaica*, or elsewhere, shall have no Right to any Share of Prizes taken by Ships employed there, before he Arrives within the Limits of his Command.
3. That when an inferior Flag-Officer, or private Ships, are sent out to reinforce a superior Flag-Officer at *Jamaica*, or elsewhere, the said superior Flag-Officer shall have no Right to any Share in Prizes taken by them before their Arrival, within the Limits of his Command.
4. That a Chief Flag-Officer, returning home from *Jamaica*, or elsewhere, shall have no Share in Prizes taken by Ships left at *Jamaica*, or elsewhere, after he has got out of the Limits of his Command.

5. That

5. That if a Flag-Officer is sent to command in the Out-Ports of this Kingdom, he shall have no Share in Prizes taken by Ships that sail from that Port, by Order from the *Admiralty*.

6. That when more Flag-Officers than one serve together, the Eighth Part of all Prizes taken by any Ships of the Fleet or Squadron, shall be divided in the following Proportion, *viz.* If there be but two Flag-Officers, the Chief shall have Two-third Parts, and the other One-third; but if the Number of Flag-Officers be more than Two, the Chief shall only have One Half, and the other Half shall be divided equally among the others.

7. That Commodores with Captains under them, shall be esteemed as Flag-Officers, with Respect to their Right to an Eighth Part of Prizes, whether commanding in Chief, or serving under Command.

As to the Method of condemning Prizes, and the various Regulations, relating to His Majesty's Ships of War and Privateers, I refer the Reader to those well calculated Acts of Parliament made for the Security and Interest of the Nation, especially that Intituled, *An Act for the better Encouragement of Seamen in His Majesty's Service, and Privateers, to annoy the Enemy.*

E X-

EXERCISE

OF THE

SMALL-ARMS.

THE Seamen, who are to perform the Exercise of the Small Arms, are to be drawn out in one Rank, with their Firelocks upon the Left Shoulder, and accoutred with Swords, Bayonets, and Cartouches; and two Paper Granades, or Wads, in Pouches; and Match hanging at the Girdle, on the contrary Side.

The Lieutenant at Arms is to stand opposite to the middle of the Rank, with a Firelock rested on his Left Arm; the Master at Arms to stand near him, with a Firelock in his Hand; and the two Corporals to stand opposite to each End of the Rank, with Firelocks in their Hands.

Words of Command.

1. *Take Care.*

Explanation.

As soon as the Word of Command is given, there must be a profound Silence observed, the Seamen making no Motions either with their Head, Body, Feet or Hands, but such as shall be ordered, looking to the Officer who is to give the Word of Command, carrying

carrying their Firelocks strait on their Shoulders, Barrels up, Muzzles high, pressing the Guard to their Breast, their Feet a Step distance, the Heels in a Line, and their Toes turned out.

2. *Join your Right-hands to your Firelocks.*

Turn your Firelocks inwards with the Left-hand, the Butt to be sunk a little, and at once take hold with the Right-hand behind the Lock, both Elbows in an equal Line, but not constrained.

3. *Poise your Firelocks.*

Bring up the Firelock from your Shoulder, with both Hands with a quick Motion, at the same Time thrust it from you with your Right-hand ; in doing which, let your Left-hand fall down by your Side, the Side-plate opposite to your Neck, with your Arm a little bended, the Lock turned outwards, and the Thumb inwards, right against the Face, and your Feet in the same Posture as when shouldered.

4. *Join your Left-hands to your Firelocks.*

Turn your Firelock the Barrel towards you ; at the same Time seize it with your Left-hand, so that the little Finger touch the Lock ; hold your Firelock in both Hands, with your Arms extended as much as possible, without Constraint ; then tell 1, 2, and with a quick Motion bring your Firelock down, the Butt opposite to the right Knee, the Muzzle pointing a little forwards, the Stock in your Left-hand, with your right Thumb on the Cock, the Fore-finger before the Trigger, and the other Fingers behind the Guard.

At

At the same Time that you bring down your Firelock, you must step a little back with your right Foot, the Toe pointing to the Right, the right Knee stiff, the left Knee a little bending, your Body very strait, and Face to the Front as much as possible.

5. *Cock your Firelocks.*

Keep your Thumb upon the Cock, and bring up your Firelock with both Hands before you, the Cock Neck-high; at the same Time bring up your right Foot, the Heel within half a Foot of the Hollow of the left Foot, and the Toe pointing to the Right, the Firelock close to your Breast, that you may the easier bend the Cock; tell 1, 2, and cock; and at the same Time thrust your Firelock quick from you with both Hands, holding your Thumb upon the Cock, your Fore-finger before the Trigger, keeping your Arms stretched out before your Body.

6. *Present.*

In Presenting, take away your Thumb from the Cock, and move the right Foot a little back, the Toe turned to the Right, the Body to the Front, and place the Butt in the Hollow, betwixt the right Breast and the Shoulder, keeping the Fore-finger before the Trigger, but without touching it, and the other three Fingers behind the Guard, the Elbows in an equal Line, the Head strait upward, the Body upright, but a little press'd forwards against the Firelock, the left Knee a little bent, and the right Knee stiff.

7. *Fire*

7. Fire.

As soon as this Command is given, draw the Trigger briskly with the Fore-finger, and take Care you draw the Trigger but once.

8. Recover your Arms.

Bring up your Firelock strait before you ; the Cock Neck high, the right Heel near the Hollow of your left Foot, keeping the Posture as in Explanation 5.

9. Half cock your Firelocks.

Bring the Firelock close to your Breast, and half bend your Cock ; then tell 1, 2, and thrust it from you with your Hands.

10. Handle your Cartridge.

Fall back briskly with the right Foot behind the left, that the Heels come strait behind one another, the left Toe pointing to the Front, and bring down your Firelock to the Right at the same Time with both Hands, and a quick Motion, keeping the Muzzle in a Level with the rest of the Barrel ; tell 1, 2, and quitting the Firelock with the Right-hand, clap it to your Cartridge Box, open it, and take out one of the Cartridges. Bring the Cartridge to your Mouth, bite off the Top of it, and bring it to the Side of the Pan, holding it in your full Hand, with your Thumb on the Top of it.

11. Prime

11. Prime.

Let the Muzzle of the Musquet sink, till it lies level in your left Hand, at the same time bring the Cartridge to the Pan, and shake out as much Powder into the Pan, as it will conveniently hold, and then put the End of the Cartridge that is bit, betwixt your Teeth, and keep it there.

12. Shut your Pans.

Take hold of the Steel with your Thumb upwards, and your two Fore-fingers under, tell 1, 2, and shut your Pans; tell 1, 2, and seize your Firelock with your right Hand behind the Lock; then tell 1, 2, and bring up the Firelock to the Recover.

13. Cast about to Charge.

Turn the Firelock with both Hands, the Barrel outwards; tell 1, 2, and let go the right Hand, bringing down the Firelock with the Left; step forwards with the right Foot, though not directly before the Left, but place it a little to the Right, that the Body may present itself the better forwards, taking hold of the Muzzle with the right Hand, that the bringing down of the Firelock, the moving of the right Foot, and the taking hold of the Muzzle, be done at the same time; hold it with your right Hand, the Thumb upwards, near the Rammer, and the Barrel downwards, keeping the Body strait, only the right Knee a little bent, which must remain so, till you have charged.

14. Charge

14. *Charge with Cartridge.*

Take the Cartridge from your Mouth, and put the End which is bit off into the Muzzle of your Firelock, turning your Hand and Elbow, tell 1, 2, raise your two Fore-fingers; tell 1, 2, clap them on the Muzzle briskly, and remain so with your right Elbow square.

15. *Draw your Rammers.*

Seize the Rammer with your Fore-finger and Thumb of the Right-hand, the Thumb upwards; tell 1, 2, and draw it out as far as your Arm will reach; tell 1, 2, and take hold of it close to the Stock, turning the Thumb downwards; then tell 1, 2, and draw it quite out, holding it between the Thumb and the two Fore-fingers, the whole Arm stretched out even with the right Shoulder, the small End towards you, and the other from you in an even Line.

16. *Shorten your Rammers.*

Move the middle Finger, which supports the Rammer, and turn it quick with the thick End down, and hold it so in your Hand, with an out-stretched Arm, in a Line with your Shoulder, the Thumb upwards; tell 1, 2, and set the thick End against the lower Part of your Breast; tell 1, 2, and slip your Hand down to a Hand's Breadth of the End, the Rammer in a Line with the Barrel, the Thumb upwards, and the Elbow a little turned out from the Body.

17. Put them in the Barrels.

Bring the Rammer a little above the Muzzle, and place the thick End on the Cartridge ; then tell 1, 2, and thrust it down as far as your Hand will permit, tell 1, 2, and seize it about the Middle ; tell 1, 2 and thrust it down as before ; tell 1, 2, and seize it at the Top ; tell again 1, 2, and thrust it down to your Hand, holding your Rammer fast with the Thumb upwards.

18. Ram down your Charge.

Draw the Rammer as far as the Arm unforc'd will permit ; then tell 1, 2, and ram down the Charge with an ordinary Force, holding the Rammer as before.

19. Recover your Rammers.

Draw your Rammer with a quick Motion, until half of it be out of the Barrel ; tell 1, 2, seize it close to the Muzzle, with the Hand turn'd, the Thumb downwards, then tell 1, 2, and draw it quite out of the Barrel, holding it with the thick End towards your Shoulder, observing the same Position as in Explanation 15.

20. Shorten your Rammers.

Turn down the small End of your Rammer with your two Fore-fingers and Thumb ; tell 1, 2, and set it against your Breast ; then tell 1, 2, and flip your Hand within a Foot of the End, observing the Directions in Explanation 16.

21 Return

21. *Return your Rammers.*

Bring the small End of the Rammer with a gentle Turn under the Barrel, and place it in the Stock ; tell 1, 2, and thrust it in as far as your Hand will permit ; tell 1, 2, and seize it in the Middle ; tell 1, 2, and thrust it down as before ; tell 1, 2, and set the Palm of your Hand against the thick End ; then tell 1, 2, and thrust it quite down.

22. *Cast off your Firelocks.*

Extend your right Arm to the Right in a Line with your Shoulder ; tell 1, 2, and take hold of your Firelock, your Thumb even with the Muzzle ; then tell 1, 2, and thrust the Firelock from your Body, observing Explanation 13.

23. *Your Right-hands under your Locks.*

Face on the left Heel to the Left, at the same time turning the Muzzle directly up, you seize the Firelock with the right Hand behind the Lock, holding the Firelock from your Body, and your Hands as low as you can, without Constraint.

24. *Poise your Firelocks.*

Face very quick on the left Heel to the Right, and at the same time bring the Firelock with the right Hand before you, letting your left Hand fall down by your Side, pushing the Firelock suddenly with the right Hand forwards, the Arm a little bended, so that the thrusting forwards of the Firelock, and the setting down of the right Foot, be done at the same time.

M 2

25. *Shoulder*

25. *Shoulder your Firelocks.*

Turn your Firelock with the right Hand, the Barrel outwards, and the Guard inwards against the left Shoulder; at the same time seize the Butt with your left Hand, placing your Thumb in the Hollow; tell 1, 2, bring it with both Hands upon the left Shoulder without moving your Head, and keep both Elbows in a Line; tell 1, 2, and quit your right Hand, letting it fall down by your Side, sinking your left Elbow at the same time.

Exercise of the B A Y O N E T.**Words of Command.****26. *Poise your Firelocks.*****Explanations.**

This is done as in Explanation 2, 3.

27. *Rest on your Arms.*

Sink your Firelock as low as you can, without Constraint, with your right Hand, seizing it at the same time with your Left, the Height of your Chin, the left Elbow turned out; tell 1, 2, and seize the Muzzle with your right Hand; then tell 1, 2, and bring the Butt to the Ground, slipping up your left Hand at the same time close to your Right.

28. *Draw*

28. *Draw your Bayonets.*

Seize your Bayonet with the right Hand ; tell 1, 2, draw it out briskly, facing full to the Right, with an extended Arm, the Point of the Bayonet straight up, with your Thumb in the Hollow of the Shank, that the Notch of the Socket may come even with the Sight of the Barrel, when you fix it on the Muzzle.

29. *Fix your Bayonets.*

Turn briskly up with Foot and Hand to the proper Front, placing the Socket of the Bayonet on the Muzzle ; tell 1, 2, and thrust it down as far as the Notch will permit ; tell 1, 2, turn it from you, and fix it ; tell 1, 2, casting your Hand a little to the Right with a square Elbow ; then tell 1, 2, and seize your Firelock with the Palm of your right Hand on the Back of your Left.

30. *Rest your Bayonets.*

Raise the Firelock with your right Hand as high as your Forehead, and slip your left Hand at the same time as low as possible, without Constraint ; tell 1, 2, raise your Firelock with your left Hand, turning the Barrel towards you, and at the same time seize it under the Lock, observing the Posture in Explanation 8 ; tell 1, 2, and come to your Rest, as in Explanation 4.

31. *Charge your Bayonets Breast high.*

Bring your Firelock to the recover ; tell 1, 2, throw back your right Hand ; tell 1, 2, and clap the Palm

against the Plate of the Butt, the Barrel being towards you ; tell 1, 2, and falling back with your right Foot, your Heels in a Line, come to your Charge, having the Butt End in a full right Hand, your Thumb upon it, the Barrel upwards, the left Elbow turned out from the Body, and the Point of the Bayonet the Height of your Breast.

32. *Push your Bayonets.*

Push your Bayonet forwards without raising or sinking the Point, and at the same time bring the Butt of the Firelock before your left Breast ; tell 1, 2, and bring it back to its former Posture.

33. *Recover your Arms.*

Seize your Firelock with the right Hand behind the Cock ; tell 1, 2, and come up to your Recover.

34. *Rest on your Arms.*

This is done, as in Explanation 27.

35. *Unfix your Bayonets.*

Slip up your Bayonet with the right Hand ; tell 1, 2, and turn it towards you ; then tell 1, 2, and flip it quite off the Muzzle, thrusting it from you at the same time.

36. *Return your Bayonets.*

Turn briskly to the Right on the left Heel, with an extended Arm, and the Point of the Bayonet upwards ;
tell

tell 1, 2, sink the Point of your Bayonet, and place it in the Scabbard ; tell 1, 2, and thrust it quite in, holding up your Heads, and looking to the Right ; tell 1, 2, and extend your Arm to its former Posture, and come briskly up to your proper Front, seizing the Firelock near the Muzzle, with your right Hand above the Left.

37. Poise your Firelocks.

This Motion is done as the first Motion in Explanation 30 ; tell 1, 2, and raise the Firelock with the left Hand, seizing it with right the Hand under the Lock ; tell 1, 2, and thrust it from you, coming to the Poise.

38. Shoulder your Firelocks.

This is done, as in Explanation 25.

Exercise of the GRANADES.

Words of Command.

39. Join your Right-hands to your Firelocks.

Explanations.

This is done in the same Manner as has been shewn in the Exercise of the Firelock, Explanation 2.

40. Poise

40. *Poise your Firelocks.*

This, as in Explanation 3.

41. *Join your Left-hands to your Firelocks.*

This, as in Explanation 4, with this Difference, that you are to take the Sling in your Left-hand, when you seize the Stock.

42. *Cock your Firelocks.*

This, as in Explanation 5.

43. *Present.*

This, as in Explanation 6.

44. *Fire.*

This, as in Explanation 7.

45. *Recover your Arms.*

This, as in Explanation 8.

46. *Handle your Slings.*

Turn the Firelock with both Hands, that the Lock come outwards, holding it before your Body; tell 1, 2, and step out with your Right Foot to the Right Side, drawing at the same Time your Sling with your Left-hand quick to your Left-side, in an equal Line with your Firelock, the Thumb upwards, and stand thus, 'till the following Word of Command.

47. *Sling*

47. *Sling your Firelocks.*

Bring the Sling with your Left-hand just above your Right Shoulder, and at the same Time bring your Firelock with your Right-hand under your Left Elbow ; tell 1, 2, and draw the Sling with your Left Hand, letting loose the Right, that the Firelock may hang upon the Right Shoulder with the Muzzle up, and the Butt End downward, bringing both Hands to hang by your Sides.

48. *Handle your Granades.*

Face nimbly upon the Left-heel to the Right ; keep your Right-hand extended the Height of your Shoulder ; tell 1, 2, and clap it briskly upon your Pouch, seizing, if there be Occasion, your Grenade ; tell 1, 2, and bring it with an out-stretched Arm, your Thumb against the Fuze, and stand in this Posture.

49. *Open your Fuze.*

Bring your Grenade to your Mouth with your Right-hand ; tell 1, 2, open your Fuze with your Teeth, and thrust it nimbly from you to its former Place.

50. *Guard your Fuze.*

Cover the Fuze with your Thumb, without making any further Motion.

51. *Handle your Matches.*

Bring your Left-hand to your Girdle, and take out the Match between your Thumb and your two Fore-fingers ;

fingers ; tell 1, 2, and thrust out the Left-hand with the Match quickly forward, letting the Right-hand hang down by your Side at the same Time.

52. Blow your Matches.

Bring your Match before your Mouth ; tell 1, 2, blow it with a strong Blast, and thrust it at the same time to its former Place.

53. Fire and throw your Granades.

Meet your Grenade with your Left-hand opposite to your Right-thigh, bending the Right-knee, and keeping the Left-knee stiff ; fire the Fuze at the same time ; then tell 1, 2, and throw the Grenade with a stiff Arm, and stepping forward with the Right-Foot even with the Left ; tell 1, 2, and let your Right-hand hang by your Side, keep the Left-hand with the Match extended.

54. Return your Matches.

Bring both Hands before your Body ; tell 1, 2, and put the Match in its former Place ; tell 1, 2, and let both Arms hang down to your Sides.

55. Handle your Slings.

Seize the Sling with your Left-hand, as low as you can reach ; tell 1, 2, and slip your Left-elbow under the Firelock, letting the Stock lie between the Thumb and the two Fore-fingers, the Barrel upwards, and the Butt End pointing to your Left.

56. Poise your Firelocks.

Seize the Sling about the Middle with your Right Hand ; tell 1, 2, and bring the Firelock to lie on your Left-shoulder, and the Sling on your Right, the Barrel upwards, and the Butt End before you ; tell 1, 2, bring the Sling with your Right-hand, over your Head, and the Firelock with your Left, strait before you, the Muzzle upwards, and the Barrel turned forward ; tell 1, 2, and cast the Sling quick with your Right-hand towards your Left, turning at the same Instant the Lock outwards ; tell 1, 2, and place the Right-hand under the Lock, the Thumb upwards, then tell 1, 2, and thrust the Firelock briskly from you, letting your Left-hand fall by your Side.

57. Half cock your Firelocks.

Seize the Firelock with your Left-hand, turning the Barrel inwards, as in Explanation 41 ; tell 1, 2, and half Cock, as in Explanation 46.

Then go on, as in the first Part of the Exercise.

After the Seamen have perfectly learned the Exercise of their Arms, they may be sometimes drawn up in one, two, or three Ranks, and taught to do the Running Fire, and also firing by Platoons.

E X-

EXERCISE

OF THE

GREAT-GUNS.

THE Guns are to be loaded with Powder and Shot, the Water-Tubs in their Places, the Matches lighted, the Crows, Handspikes, Sponge Staves, and Rope Sponges, placed in Order by the Guns, and the Men at their Quarters.

Words of Command.

1. *Take Heed.*
2. *Silence.*
3. *Cast off the Tackles and Breechings.*
4. *Seize the Breechings.*
5. *Take out the Tampion.*
6. *Take off the Apron.*
7. *Unstop the Touch-Hole.*
8. *Handle the Priming Wire.*
9. *Prick the Cartridge.*
10. *Handle*

10. *Handle the Powder-horn.*
11. *Prime.*
12. *Bruise the Priming.*
13. *Secure the Powder-horn.*
14. *Take hold of the Apron.*
15. *Cover the Vent.*
16. *Handle your Crows and Handspikes.*
17. *Point the Gun to the Object.*
18. *Lay down your Crows, and Handspikes.*
19. *Take off the Apron.*
20. *Take your Match, and blow it.*
21. *Fire.*

You must take Care, that the Guns do not touch the Side of the Port, when you fire.

22. *Stop the Touch-hole.*
23. *Handle the Sponge Staff.*

24. Spunge the Gun.

In spunging the Gun, the Spunge is to be drawn backwards and forwards two or three Times, as well as pushed home strongly, and in taking it out, turn it round two or three times in the Gun. Observe to strike your Spunge well on the Muzzle of the Gun, to cleanse it. If you make Use of a Rope Spunge, observe to shift Ends, and have your Rammer Head at Hand.

*25. Handle the Cartridge.**26. Put it into the Gun.*

You must put the Cartridge in as far as you can reach with your Arm, the lower End first, and Seam of the Cartridge downwards.

*27. Wad to your Cartridge.**28. Handle the Rammer.**29. Ram home Wad and Cartridge.*

Observe to give two or three Strokes, to ram it well home.

*30. Unstop the Touch-hole.**31. Handle the Priming Wire.**32. Try if the Cartridge be home.**33. Draw*

33. *Draw the Rammer.*
34. *Shot the Gun.*
35. *Wadd.*
36. *Ram home Wad and Shot.*
37. *Draw the Rammer.*
38. *Stop the Touch-hole.*
39. *Lay on the Apron.*
40. *Run out the Gun.*

If you Exercise the Lee Guns, and it blows fresh, you must keep one Tackle hooked to the Ring-bolt on the Deck, near the Comings, and the other Tackle hooked to the Ring, in the Train of the Carriage. But if you Exercise the Windward Guns, keep both Tackles hooked to the Ship's Side, and the Train of the Carriage.

When you Exercise the Lower Deck Guns, have your Port Ropes or Port Tackle Falls clear, to let fall your Ports in case of too much Wind, and Lanyards to make them fast.

Always, after the Exercise is over take Care to have the Decks clean swabbed, that no scattered Powder be left.

Of HOSPITAL-SHIPS.

1. **I**N Hospital Ships, the Gun-Deck is entirely set a-part, for the Reception of the Sick; it is to be flush, without Cabbins or Bulkheads, except a Deal or Canvas one, for separating such as have malignant Distempers; it is to contain the necessary Cradles and Bedding; two pair of checquered Linnen Sheets are allowed to each Bed: And Scuttles must be made, for Inlets of the Air.

2. In an Hospital Ship there is allowed a Phyfician, Surgeon, four Mates and fix Affistants, a Servant to the Surgeon, a Baker and four Washermen.

3. The Captain of an Hospital Ship is to subfist the Men under Cure, out of the best and neweft Provisions in the Ship; and with fresh Meat as often as may be.

4. When the Sick are fo well recovered as to return to their own Ship, upon a Signal given, and a Weft, their Captain is to fend a Boat for them.

The P H Y S I C I A N.

1. **T**HE Phyfician is to refide in the Hospital Ship, if any; or in fuch other as the Commander in Chief fhall appoint.

2. He is to vifit the Sick in the Ships of the Squadron or Divifion he belongs to, as often as is needful, together with the Surgeon of the Ship.

3. He may (with the Approbation of the Admiral or Commander in Chief) infpect the Chefts of the Surgeons

geons of the Squadron, and destroy all such Instruments and Drugs as are unfit for Use: He may examine his Journal and Method of Practice; and if irregular, he is to report him to the Commander in Chief.

4. He is to observe the Admirals Orders; and demand no Fees from his Patients.

Of Gratuities to the Relations of Officers, and others, slain in Fight with the Enemy.

1. **T**O a Widow is allowed a full Years Pay, according the Post her Husband served in at his Death.

2. Orphans, each the One-third Proportion of a Widow; and *Posthumous* Children are esteemed Orphans.

3. Orphans married are not intituled to any Bounty.

4. If there be no Widow, a Mother (if a Widow, and above Fifty Years of Age) is intituled to a Widow's Share.

5. The Relations of Officers of Fire-Ships, are intituled to the same Bounty, as those of Officers of like Rank, in Fourth Rates.

6. Captains are to set down the Names of the slain, at the End of their Muster-Books, and on what Occasion.

7. This Bounty extends unto those who are slain in Tenders, in Boats or on Shore, as well as to those on Board the Ships; also to those that are slain in Fight

with Pyrates, or in an Encounter with the Ships of Friends by Mistake ; also those who die of their Wounds after Battle, are all esteemed as Persons slain.

Of Gratuities to Officers wounded in Fight with the Enemy, and to Officers Hurt in the Service.

1. **I**F an Officer receives a Wound that shall occasion the Loss of an Eye or a Limb, or the total Loss of the Use of a Limb ; or that (upon Certificate from the *Surgeon's Company in London*) shall be in Effect of equal Prejudice to the Habit of the Body, with the Loss of a Limb, he shall receive one full Year's Pay, and shall be allowed such Expences relating to the Cure (if not performed at His Majesty's Expence) as shall be certify'd reasonable by the said Company ; he shall also continue in Pay during the Time of his Cure.

2. With Respect to the Year's Gratuity, Ships under the Third Rate, are to be esteemed as such.

3. Volunteers are also intituled to the same Bounty as Lieutenants.

4. If the Wounds received do not amount to the Loss of a Limb, nor are of equal Prejudice to the Body, the Charges of Cure are only allowed, and the Continuance of Pay as aforesaid.

5. Under the Term *Wounded in Fight*, is comprehended all the several Cases relating to those *slain in Fight* ; and those so wounded, are paid the Gratitude, &c. on Application to the *Navy-Board*.

6. Inferior Officers, or Seamen hurt, maimed or disabled in the Service, by Certificate signed by the Captain,
Lieutenant

Lieutenant, Master, Surgeon, and one or more Warrant Officers of the Ship, expressing the Nature of the Hurt, &c. are intituled to the Benefit of the Chest at *Chatham*, according to the Rules and Constitutions thereof.

Of Pensions to superannuated Officers.

1. **B**Oatswains, Gunners, Carpenters, Purfers and Cooks, (whose Employments are constant) must serve full Fifteen Years; Masters and Surgeons, (whose Employments are not constant) Eight Years in their respective Offices, before they are intituled to Superannuation.

2. Officers applying for Superannuation are to be examined by the Physicians of the Sick and Wounded (or in Default of that Commission, by the Physician of *Greenwich-Hospital*) in Conjunction with the *Surgeons-Company*, who are to report their Opinion (in Writing) of their Incapacity to serve His Majesty.

3. Officers, whose Employments are constant, being admitted to Superannuation, receive an Annual Pension, equal to their Pay in the Ship of the highest Rate they have served in.

4. The Pensions of Masters are equal to half their Pay; and Surgeons are allowed the same Pensions as Masters of equal Rates.

5. Commission-Officers worn out or disabled in the Service, are considered as their Cases may deserve, and as His Majesty shall think fit.

An Extract of some Instructions relating to the
N A V Y.

1. **V**olunteers repairing on Board within the Limits prescribed, are intituled to Conduct-Money, to Wages from the Day of their Entry, to Victuals from the Time of their Appearance, and to an Advance of two Months Wages, before the Ship proceeds to Sea.
2. At their coming on Board, they may be supplied with Slops Cloaths, but the Value thereof must be deducted out of the said two Months Advance.
3. It is to be understood, that Seamen not turned over by Order of *Admiralty*, but shall voluntarily go ; or entring in Exchange for others discharged at their own Request, are not intituled to any Advance Wages.
4. Two Months Wages in Six, is allowed to be paid to inferior Officers and Seamen, if the Ship is in any Port of *Great-Britain*, or on the Coasts thereof, and not under Orders to be paid off.
5. But if the Ship is in any Foreign Parts, the same may be paid to the Attorneys of such as shall desire it ; and this is to be done every six Months, while the Ship is in Commission.
6. Notwithstanding what is above observed in Regard to inferior Officers and Seamen ; it is directed, that if the Ship shall be in any Port of *Great-Britain*, or on the said Coasts, at the End of eighteen Months, the whole Ships Company shall receive twelve Months Pay, including

cluding the Advance, if any ; and the same is to be repeated every eighteen Months from last Clearance.

7. Second Masters, Surgeons Mates, Cook, Armourer, Gunsmith, Schoolmaster, Master at Arms, Corporal and Sailmaker, are termed inferior Officers, and all others who have not Commission or Warrant.

8. When inferior Officers or Seamen are turned over from one Ship to another, the Captain must not Rate them in worse Quality than they served in the Ship removed from ; those are also intituled to two Months Wages Advance ; but if there be more inferior Officers than the Establishment of the Ship allows, the Secretary of the *Admiralty* must be therewith acquainted.

9. A Captain ordered to turn^d over his Men, must deliver a List of their Names and Qualities to the Captain they are removed under ; on such Removal they are intituled to their Wages, as well as to the two Months Wages Advance.

10. If a Ship may by Accident be disabled, so that her whole Ships Company is removed into another, this is not esteemed a turning over.

11. Volunteer Seamen are to be discharged, on procuring Preferment in any other of His Majesty's Ships ; the Captain receiving him, giving a good Man in his Room.

12. No Letter of Attorney is valid, unless made revocable, and attested by the Captain or Commander, and another of the signing Officers of the Ship to which they belong ; or by the Clerk of the Checque of some of the Dock-Yards ; or by the Mayor, or chief Magistrate of some Corporation.

13. Captains

13. Captains are to discourage Seamen from selling their Wages ; and not to attest Letters of Attorney, if the same appear granted in Consideration of Money given for the Purchase of Wages.

14. Tickets of deceased Seamen, are to be sent to the *Navy-Board*, by every safe Conveyance ; so that the Wages may be paid to the Executors, &c. of the Deceased.

15. Seamen unavoidably distressed in Foreign Parts, on proper Application, are to be received on Board any of His Majesty's Ships ; and the Captain is to bear as many as come within his Complement, for Wages and Victuals, and the rest for Victuals only : Those Supernumeraries he is to put on Board any others of His Majesty's Ships he may meet with, that are short of their Complement ; but if he meet with none, they are then to be set on Shore at any Port of *Great-Britain*, bound unto.

How to prepare a Ship for a Close FIGHT.

1. *BULK-Heads* are the Bulwarks of *Close-quarters*, and are commonly assaulted with Vigour by the Enemy ; therefore they ought to be substantial, at least Proof against a *Musquet-Ball*, as well to defend the Shot of their own Party as those of the Enemy ; for when discharged out of the Steerage at an Enemy on the *Main-deck*, they frequently fly against the *Bulk-Head* of the *Forecastle*, or out of the *Forecastle* against the *Bulk-head* of the *Steerage*. But if they be not built Proof, they may be lined with Cork, and over that
broad

broad *Paunches* or *Mass* wrought with the *Strands* of an old *Hawser* ; and rather these, because if a chance Shot from a Cannon (when an Enemy lies thwart your *Hawse* or under your *Counter*) happen to pierce through the Bulk Heads, these will not splinter ; and if the Wood should splinter, those cannot come through the Lining.

2. *Standing Cabbins*, built half in the *Steerage*, &c. and half upon Deck, as they are seldom thicker than a Deal, are dangerous ; for they not only give the Enemy an easy Entrance into the Close-quarters, but endanger the Men by Random Shot from the opposite Quarters ; but if that Part upon Deck be *Musquet Proof*, they are of Use to flank the *Bulk-heads*, especially that of the *Steerage*, when the *Forecastle* happens to be taken ; Or to prevent the Enemy's placing Engines of War against them, when the Smoke covers them from the Sight of those in the *opposite Quarters*.

3. *Decks* jetting out far beyond the *Bulk-heads* are inconvenient ; as they cover the Enemy upon the *Rigging*, while they cut down the *Yards* ; or if that be prevented by the *Top-chains*, they may cut the *Sails* from the *Yards* : The *Round-house* perhaps may be thought a sufficient Flanker for the *Rigging afore*, and on the *Main-mast* ; but it also may be thought as necessary to have as many Flankers to a Place as possible : And they in the *Round-house* may have their Hands full, while those in the *Steerage* are at Leisure to clear the *Rigging*, besides it may not be convenient for them to quit their Quarters.

4. If the *Bulk-head* of the great Cabin be well fortified, it may be of singular Use ; for though the Enemy may force the *Steerage*, yet when they unexpectedly meet with another *Barricade*, and from thence a warm

Recep.

Reception by the Small Arms, they will be thrown into great Confusion, and a Cannon ready loaded with Case-shot will do great Execution; but if this should not altogether answer the Purpose, it will oblige the Enemy to pay the dearer for their Conquest: For the Steerage may hold out the longer, and the Men will be the bolder in defending it, knowing they have a place to retire unto, and where they may capitulate for good Quarter, at the last Extremity.

5. *Close-quarters* are generally illuminated from aloft, but the *Leaves* or *Shutters* belonging thereto must be as strong as the Bulk-heads; and those *Leaves* made to swing upon Hinges, and clasp up against the Deck, may perhaps be most convenient.

6. *Scores* in the *Leaves* of the Forecastle, ought to be so cut for the *Cables*, as to prevent Danger from the *Anchors*, if the *Stoppers* and *Shank-painters* should be cut or shot; which may be done, if the *Score* be cut about the middle of the *Leaf*, in that side next the *Deck* when shut, and as high as the *Windlefs*; and when the *Leaves* are down and the *Cables* in, Pieces may be made to fit the vacant Places and Bar, so that the Enemy can have no Advantage. The *Score* being thus cut, a *Stopper* may be clapt on below, and all apparent Danger prevented. Another Advantage arises, for now you may let go the *Anchor*, without opening the *Leaves* (when Occasion requires) by opening one of the *Bow-ports*, and cutting away the Stopper and Shank painter; and so by bringing up upon a *Lee-ward Tide*, may save your Ship without fighting. There is still another Advantage, that is, when a Ship is riding upon the Coast in the Night, the *Leaf* may be let down and the *Close-quarters* secure against any Surprise the Enemy shall attempt.

7. A Ship lying thwart *Hawse*, and firing in at the *Stern* is of dangerous Consequence ; each Shot passing the *Great-Cabbin*, *Steerage* and *Forecastle*, rakes the Ship, and beats down the *Bulk-heads* : Wherefore it would be very necessary to have (both at the *Bow* and *Counter*) Stanchions, two Foot Distance from each other, and between those and the *Bow* or *Counter*, Old-junk, Plats, Swabs, Beds, &c. leaving Room only to traverse the Chase Guns : Ships thus fortified makes the Men keep their Posts with Courage, manage well their Chase Guns with Partridge ; and thereby make great Havock among the Enemy.

8. The *Decks* are in more Danger of being cut up, than exposed to the Enemy's Cannon, wherefore *Bars* of *Iron* may be let into each *Plank* to strengthen them ; or if these make the *Plank Iron-sick*, you may raise *Coamings* upon the *Quarter-Deck* almost as far aft as the *Mizen*, and those may be laid with Gratings, or Hatches if short of Hands ; they ought to be pretty thick ; the *Coamings* about a Foot high, and made of good *Oak*. The same Care must be taken of the *Deck* over the *Fore-castle*, and if over the *Poop* it would not be amiss ; an Hatch there Eight Square, and about five Foot Diameter, would be of great Importance in an Engagement when the Smoke is thick, so that the Men cannot see the Enemy cutting up their *Decks* from the *Quarters* designed to flank the Place. They will also be of singular Use to flank the Rigging.

9. *Leaves*, Musquet Proof, must be fitted for the *Great-Cabbin* and *Round-house* Windows, and it is better if they are made to swing upon Hinges ; for when an Enemy is on *Board* the *Quarter*, they may toss in *Hand-Granades*, &c. so as to destroy or drive the Men out of those *Quarters*.

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10. Look.

10. *Look-holes* must be made to these *Bulk-heads*, *Sides*, *Stern* and *Coamings*, to put out *Musquets*, in Order to clear the *Decks*, *Quarters* and *Chains*; and these ought to have their *Diameters* less than an *Hand-Granade*, lest the *Enemy* find means to toss those destructive *Engines* through them, which may do more *Mischief* than their *Cannon* or *Small-Arms*. In each *Bulk-head* it is necessary to have two *Tires*; the uppermost about four Foot and an half high, and the lowermost two Foot and an half, that if the *Enemy* lurk close to the *Bulk-heads*, designing to wedge your *Ports*, or cut at your *Bulk-heads* when the *Decks* are full of *Smoke*, or the *Forecastle* taken, you may force them away. Some of the upper *Tire* should be cut sloping to flank the *Rigging*, and others next the *Side* obliquely to command the *Wake* of the *Capston* or *Main-mast* out of the *Steerage*; and *Mizen-mast* out of the *Round-house*: and it is necessary to have a small *Hole* cut out of the *Fore-castle* to command the *Fore-mast*; for if once your *Enemy* finds *Covert*, he there views the *Posture* of your *Ship*, and does more *Prejudice* than can be readily imagined. Some should be cut in the *Quarters*, to fire at an *Enemy* along *Side*; if the *Ship* be lofty, these should be cut sloping to the *Water*; if low, cut them parallel or rather elevated. In Order to flank the *Deck* and *Rigging*, some should be cut in the *Coamings* also; and those that direct thwart the *Ship*, should be so much sloping as to command the *Yards*, that the *Enemy* cut not the *Gaskets* or *Robbins*. You must also cut some in the *Leaves* of the *Great Cabin*, *Round-house* *Windows*, and *Fore-Peak*, some sloping and some parallel, as some well regulated *Judgment* shall direct.

11. If the Number of *Look-holes* exceed the Number of Men, it is very necessary to have *Plates of Iron* to slide before those that are least useful or most suspected. Those in the Leaves of the *Great-Cabbin* need none: nor the lower *Tire* in the *Bulk-head*, which will serve to let in Light enough to see to charge a Musquet, if not, Candles must be supplied.

12. But instead of these *Iron-Plates*, it will be much preferable to have *Rowls* fitted in the *Bulk-heads*, *Quarters* and *Coamings*, after the Manner of that in the *Steerage* for the *Whipstaff*, and through these let the *Look-holes* be cut; and when there is no Occasion for them, they may be turned, the *Holes* covered; the Charge of Plate spared, and the Danger that may happen by open *Look-holes* prevented: Into one of these *Rowls* a Man may put his Musquet, turn it about till he spies an Enemy, discharge his Piece, and turn the *Rowl* again without Damage, though an Enemy be before the Hole, and ready to fire into your *Quarters*; which he would easily do, if he should spy you lifting up the *Plate* before-mentioned.

The Situation of these *Rowls* are different, and may be disposed as the Master shall think fit; but for the most Part, those in the upper *Tire* of the *Bulk-heads*; and thwart Pieces of the *Coamings* must be parallel to the *Deck*, that they may be turned aloft to flank the *Rigging*: And those in the lower *Tire* of the *Bulk-heads*, and in the Parts of the *Coamings* that go fore and aft, must stand perpendicular to the *Decks*; the *Holes* in the *Rowl* must be cut long, that a Musquet may be mounted in those that stand perpendicular, and traversed from Side to Side in those that are parallel: *Look-holes* must be cut large, else you cannot traverse
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your Musquet, and if too large, they are exposed to *Granades*, both which are remedied by Rows.

13. A Ship that carries but few Guns, requires the Ports to be cut to the greatest Advantage, and may be as follows, *viz.* let the *Foremast Ports* on each Side in the *Steerage* and *Round-house*, and *aftermost* in the *Fore-castle* be cut as near the *Bulk-heads* as possible, leaving but just Room to traverse the Guns; likewise let a Port on each Side be cut through these *Bulk-heads*, that the Guns may easily be turned from the Sides to the *Bulk-heads*: Also in the *Great-Cabbin* and *Round-house* on each Side, let a Port be cut as near the Counter; let two also be cut out of the *Great-Cabbin*, and as many out of the *Round-house* through the Stern, that your *aftermost* Guns may with Expedition be made your *Stern Chase*: Thus the *Stern* of a Ship of Eight Guns, may be made of equal Force with her *Broad-side*. Then let your *foremost* Ports in the *Fore-castle* be cut close forward, that they may be serviceable if a *Privateer* be either a long Side or thwart your *Fore-foot*.

14. The *Ports* must turn free upon the Hinges, as thick and strong as may be, with good *Port-ropes*, in which must be put between the Strands a piece of Stick, to keep the Port, when up, from coming too near the Side, that it may not catch.

15. But besides these *Ports* without, it is absolutely necessary to have some *defensive Ports* within, for should a Port be shot away, and the Enemy Board you, it may prove fatal. They are also useful whilst the Enemy is on Board your Ship; for if a Port be occasionally hauled up, an Enemy (if at Hand) may wedge it, and with *Hand-Granades* bring those Quarters to the last Extremity. Besides, when the Enemy

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is on Board, the Fight dubious, and your *Ports* jam'd, fire them away into the Enemy with a Bag of Partridge, and a doubled Shot; and then when you please you may discharge your *Cannon*, and down with your *defensive Ports*, which will keep out *Hand-Granades*, &c.

16. In Sallying, the Men may be forced to retreat into their *Quarters*, with the Enemy at their Heels, so that they cannot shut the Doors; it would therefore be necessary to have a Door in Manner of a *Portcullis*, to fall down and catch in two Snatches at the Step fixt with Springs; and this kind of Herse may be made of Wood, lined next the Deck with Tin, stuck full of sharp Nails, and a ponderous Lump of Lead at the lower End, to make it fall with Violence; it may be so contrived, that the Doors may shut over it.

17. The *Fore-castle* flanks the *Round-house*; if that therefore be wanting, it is plain the *Round-house* is exposed (after the *Granades*, &c. are sprung) defenceless to the Enemy: Some Provision then ought to be made to secure so important a Place, and which (perhaps) cannot be better flanked, then by high *Coamings*, as directed by *Art. 8*, and *10*. If the *Round-house* be wanting, and the Ship steer close, the *Companion* ought to be Musquet Proof, and fenced against Pole Axes with Iron-Bars: This with *Look-holes*, will command the *Quarter-Deck*, if there be no *Fore-castle*, or when that happens to be taken; yet for all this *Coamings* ought not to be neglected. A Ship that hath no *Fore-castle*, ought to have *Coamings* to the *Fore-batches*, and *Look-holes* cut in them, to command the *Wake* of the Boat, which will cover the Enemy from Abaft, while they cut up the Deck: In a Vessel well loaded, cutting up the Deck *before* will be of no Advantage to them; but

if Light, they may come Aft, and force or blow up your Quarters.

18. Having thus fixt the *Close-Quarters*, it is necessary that the Men have convenience of Communication one with another, that if Occasion require they may dispatch mutual Assistance ; or if one of their *Quarters* be forced, those may retire to that which holds out, thereby to assist and maintain the Fight, or capitulate for Quarters ; and this may be done by *Scuttles* cut through the Decks : But it has been objected, that *Scuttles* (especially that out of the *Fore-castle*) are Encouragements for Cowardice ; that having no such Convenience, the Men are more resolute, because they must fight, dye, or be taken : Now if they must fight or dye, it is highly unreasonable, and as cruel, to leave Men to be cut in Pieces, when they are able to defend their Posts no longer, and in this Case the Fate of the Hero and the Coward is alike ; and if it is to fight or be taken, the Gallant will hold out to the last, while the Coward (if the Danger runs high) surrenders as soon as Quarters are offered ; now if there be a *Scuttle*, the Menace of the Enemy will make the less Impression on their Minds, and they will stand out the longer, when they know they can retire from the Fury of the Enemy, in Case they force their *Quarters* : Mr. Park closes *Section 21. Part 1.* thus ; “ In short, it will be as great a blemish in a Commander’s Politics, to leave Cowards without a *Scuttle*, as it will be Ingratitude to leave gallant Men to be cut to Pieces”. Hence it appears, that *Scuttles* are absolutely necessary, and may be cut after the following Manner. 1st, Let one be cut out of the *Round-house* into the *Great Cabbin*. 2^d, One out of the *Great Cabbin* into the *Gun-Room*. 3^d, One out of the *Fore-castle* into the *Lower-Deck* ; and if the Ship be full, let a Trench be made *fore* and *ast*, as Necessity requires ;

quires ; but if she be light, the Men must remain near the *Scuttle* to defend it, after they have left the *Fore-castle* : And though the Place be open to an Enemy, when down, yet being dark to those that come out of the Air, the *Defendants* may take them off at Pleasure before they recover their Sight. However, if any Danger threaten, by being open to the Enemy, a *Bulk-head* may be run up from Side to Side so near the *Scuttle*, that with a *Javelin* or *Half-pike*, they may destroy each Man as he comes down ; besides large *Look-holes* may be made, and good Store of *Hand-Granades* left to toss through them, if the Enemy press down too fast : And in Order to prevent the Enemy from cutting up the Decks over your Heads, *Look-holes* through the *Coamings* of the *Fore-batches* are sufficient.

19. To the managing the Sails, much is owing for a Victory, or an honourable Retreat : Now in a Ship well manned they may be able to keep their *Decks*, receive the Enemy upon the Edge of their *Cutlasses* and need not alter their Running-Rigging : But for Ships indifferently manned, it is necessary to get their Rigging (that is, the *Braces*, *Bow-lines*, *Tacks*, *Sheets* and *Fore-clue-garnets*) into *Close-quarters*, as well for Command of the Sails as Preservation of the Men ; and then it is evident the Ship may be tacked, if the *Clues* of the *Courses* run clear of the *Shrouds*, the only thing in Danger of coming foul. To prevent this, the *Clue-garnet-blocks* may be carried further out, and when the Ship is going to tack, she may be hauled *taught*, which will make them traverse clear of the *Shrouds*, and when the Yard is about they may be let go, and the *Tacks* got down as close as possible. The only way to accomplish this, is to reave the *Fore-Tacks* in at the *Hawse* ; the *Fore-bow-lines* and *Fore-top-bow-lines*, through the *Fore-peak* ; the *Fore-braces*, and *Fore-top-sail-braces*, through the *Gratings* over the *Hearth* ; and the *Fore-clue-*

clue-garnet-fall in at the Foremost *Port*, or rather in at a *Look-hole* in the Chains, it being first *reeved* through a *Block* seized to the *Chains*: The *Main-bow-lines*, *Main-top-bow-lines* and *Main-Tacks* must come into the *Fore-castle*, which latter must come in through a *Look-hole* in the *Fore-chains*. The *Main-top-sail-braces*, *Main-sheets*, *Mizen-top-sail bow-lines* and *Braces*, with the *Cross-jack-braces* must come into the *Steerage*: The *Fore-sheet* may be brought either into the *Fore-castle* or *Steerage*, and the *Main-braces* by the *Main-top-bow-line*, that the Men may *brace* about the Yard, and be at Hand to get the *Tacks aboard*, &c. upon the *Fore-castle*; but because half the Men or more are in the *Quarters abaft*, it will be necessary for both to be in the *Steerage*, the *Braces* coming through a Hole close *ast* in the *Quarter*, and the *Sheet more forward*, in both the Holes must be *Sheaves*, that they may run briskly and free. But it may be objected, that if an *Enemy* be suspected to be coming on Board, the *Courses* ought to be *furled* in Time; for the *Enemies* Men upon the *Fore-shrouds* are by the *Main-sail* covered from *Abaft*; likewise the same Sails cover them, mounting the *Mizen-shrouds* from the *Fore-castle*: And if they get upon the *Yards* and cut the *Robbins* and *Earrings*, the Sails falling down will cover them while they cut the *Decks up*, &c. In Answer hereunto, this Conduct is not advisable in little Wind and smooth Water; though then so much of your *Running-Rigging* as is necessary for the managing your *Top-sails* ought to be taken into *Close-quarters*, to wear your Ship if the *Enemy* persist and board you.

But when the Wind blows fresh, and there is a *Swell*, by crowding you then render it difficult, if not impracticable for the *Enemy* to board you, and at such a Time *tacking* may be necessary; by the Way, have great Regard to your *Masts* and *Yards*. It
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perhaps may not be amiss, if the Master practiced (when Occasion serves) to *tack* his Ship in *Close-quarters*, when he has Sea-Room enough, in Order to render his Men more dextrous against a real Occasion.

A N

E P I T O M E

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S E A - G U N N E R Y.

I. The Parts of a Cannon defined.

1. **T**HE *Convex Superfices* of the Mettle, is all the outside of the Piece.

2. The *Concave Superficies*, is all the inside.

3. The *Cascable*, is the Pummel or Knob at the Coyl, to this the Breeching is seized, and the Tackle Falls fastened.

4. The *Base-ring*, is the first thick Cornish from the Cascable.

5. The *Touch-hole*, is the small hollow Vent next the *Base-ring*, which serves to convey Fire to the Powder in the Concavity of the Piece.

6. The *Breech* or *Coyl*, is all the Mettle behind the Touch Hole.

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7. The *Reinforced-Ring*, is that Cornish between the Base-ring and Trunnions.

8. The *Trunnions* are two solid Pieces or Knobs of Mettle fixt to the *Convex Superficies*, by which the Cannon hangs in the Carriage.

9. The *Trunnion-Ring*, is the Cornish next the Trunnions towards the little End of the Piece.

10. The *Cornish-Ring*, is that next the Trunnion-Ring towards the Muzzle.

11. The *Frieze* or *Muzzle-Ring*, is the Cornish which compasseth the little End of the Piece.

12. The *Muzzle* is the Extremity of the Piece.

13. The *Chase*, *Bore* or *Concavity*, is all the hollow or empty Part of it.

14. The *Charged Cylinder* or *Chamber*, is that Part of the Chase, which contains the Powder, Wad and Ball.

15. The *Vacant Cylinder*, is that Part of the Chase, where the Powder, Wad and Ball lies not.

16. The *Line* of the *Cylinder*, is an imaginary Line, as it were the Axis of the Chase.

17. The *Dispart* of a Piece, is the nearest Distance between the Top of the Cornish of the Muzzle-Ring, and a visual Ray proceeding from the Eye over the Muzzle Ring, parallel to the Line of the Cylinder, or Axis of the Chase.

II. *Parts of a Carriage defined.*

1. **THE Cheeks**, are two Pieces of Plank that make the Sides, upon which the Cannon hangs by its Trunnions.

2. The *Transom*, is a Piece of Plank that serves for the Bottom of the Carriage, upon which the Cheeks are erected.

3. The *Cap-squares*, are broad circular Pieces of Iron, fixed to the Cheeks, and serve to lock the Trunnions into the Trunnion Holes.

4. The *Axle-Trees*, are Pieces of Wood to go thwart the Transom; upon these the Carriage rests.

5. The *Trucks*, are a sort of Wheels upon the Axle-Trees, contrived to draw the Ordnance with Facility.

6. The *Linch-Pins*, are a kind of Iron Spikes that go through the Axle-Trees, and serve to keep on the Trucks.

7. The *Bed*, is made of two Pieces of Board nailed together at Right-angles, and serve to level the Piece in its Carriage.

8. The *Coins*, are Pieces of Wood in the Form of a Wedge.

9. The *Tackles*, and their Use are evident.

10. The *Breeching*, is a Piece seized in the middle to the Caskable, the two Ends reeved through two Ring-

Ring-bolts in the Cheeks, and fastened to two Eye-bolts in the Side of the Ship: These are to bring up the Piece, when being discharged it runs in; they are likewise to keep the Gun fast in bad Weather.

III. *How to find whether a Cannon be taper bored.*

1. **A** *Taper-bored Ordnance*, is less in Diameter of the Chafe next the Calcable than at the Muzzle, and to find how much Mr. Nye proposeth this Rule, viz.

Take the Diameter at the Base Ring, and also at the Muzzle Ring, the Semi-Difference he calls the Dispart; then put the Priming Iron down the Touch-hole, until it rest upon the Mettle in the Bottom of the Chafe, there make a Mark upon the Priming Iron, level with the Base Ring: Then apply the Priming Iron to the Chafe at the Bore, and mark it level with the Muzzle Ring: If the Difference between these two Marks be equal to the Dispart, he concludes the Piece is not taper bored: But if the Distance between the two Marks upon the Iron be less than the Dispart, he then esteems it taper, and twice their Difference is the Difference between the Diameters of the Chafe at the Touch-hole and Muzzle. Now suppose the Difference is two Inches, and the Gun false bored, the Chafe inclines two Inches towards the Horizon; then if the Gun be not taper bored, by this Experiment it will be found so; and if it be taper, and false bored each two Inches, he will make it four Inches.

2. Mr. Park gives us the following Experiment, viz.
Prepare a Bag of double Canvas, about two Feet long,
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both Ends made to draw close like a Purse ; one End being drawn and tied, let the Bag be filled with Clay, or any other flexible Substance, then close and fasten the other End : Put the Bag into the Chafe, and ram it home into the charged Cylinder, with a Rammer that has a Hole in the Head, through which draw the Line fastened to the upper End of the Canvas ; let it remain three Hours or longer, till you think the Substance is hard enough to preserve the Form it receives : Then draw it out, and you will have the Diameter of the Chafe in the Breach, and the Form of the charged Cylinder, by which may be made the Cartridge Moulder.

IV. To find the Flaws and Cracks in a Piece of Ordnance.

TAKE a large Piece of dry Touch-Wood, and set it on Fire in several Places at once ; when near half its Superficies smokes, put it into the Chafe, and stop the Mouth and Touch-hole both together : If the Gun be without Cracks, the Touch-Wood will be extinguished for want of Air, otherwise it will burn out ; and perhaps you may see the Smoke.

V. To find if a Piece of Ordnance be Honey Comb'd.

I. **T**AKE a Looking-glass, and reflect the Beams of the Sun into the Chafe, which will illuminate and render visible the Pores in the Concave Superficies: But if the Sun do not shine, put a Candle upon the

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End of an Half-pike, and thrust it into the Piece, and that will shew the Pores.

2. *Or thus*, Take a Searcher, made with several Springs, with Points bending outwards; contract the Springs, until the Instrument will enter the Mouth of the Piece; move it in a spiral or circulating Manner in the Chase, and if there be any Honey-Combs, the Points will find them out.

These Defects may prove of bad Consequence, either by splitting the Ordnance, or by retaining some Part of the Cartridge unextinguished; and which if known, may be prevented by stopping the Touch-hole in Spunging.

VI. *To find how much Powder is sufficient for any Piece of Ordnance true bored or not.*

A Gun having its just Allowance of Powder, is free from the Danger of splitting, and the Shot capable of the greatest Execution; but to do this exactly is one of the greatest Mysteries in Gunnery; first from the uncertain Quality of the Metal, and secondly from the Strength of the Powder: However, various Rules are prescribed for this Purpose, some of which are as follow, *viz.*

1. **F**OR every hundred Weight of Iron Metal allow three Ounces of Powder, and for Brass four. But here it must be observed, that Guns may have the same Quantity of Metal, the same Bore, yet be of different Lengths, consequently of different Fortifications. *Or*, Guns may have the same Weight, Length, the Diameters of their Chases equal, and yet not capacitated

citated for the same Quantity of Powder, as is evident if one be true and the other false bored: Therefore this Rule should never be put in Practice, but when the thinnest Part of the Metal at the Touch-hole is equal in Thickness to the Diameter of the Chase.

2. Multiply the Weight of the Ball by the Number of the Diameters of the Chase in the Circumference of the Breech, the Product multiply by 6, the last Product divide by 96, the Quotient gives the Pounds required to charge the Piece in Action.

The Allowance of Powder by this Rule is thought to be too much.

3. Allow for Cannon Four-fifths of the Weight of an Iron Ball for Proof, and Half for Action: For Culverings the whole Weight for Proof, and Two-thirds for Action: For Sakers, Falcons and less Pieces One and an half the Weight of the Ball for Proof, and Four-fifths for Action: But as they grow hot, the Gunner must abate at Discretion, lest they split the Gun. But this Rule is only true for such Guns as are legitimate and true bored, therefore must not be practised but in such Cases.

4. It must be taken for granted, that such a Charge is sufficient for such a Piece; then say, as the Cube of the Chases Diameter you do know, is to the Cube of that you know not; so is the given Quantity of Powder, to that required.

In following this Rule, you must take Care that the Ordnance be regularly fortified.

5. As the Cube of the thickness of the Metal at the Touch-hole, is to the Quantity of Powder allowed to such a Piece; so is the Cube of the thickness of any

other Piece, taken at the same Place, to the Powder required for a Charge. If the Piece be false bored, take the thinnest Part of the Metal of the Touch-hole.

The young Gunner must take great Care, that he do not give his Ordnance Pistol-Powder instead of Cannon; for if he do, and the same Quantity, she is in Danger of splitting, the Difference of their Strength is so great: It has been observed, that the Quantity of the same Strength has done it, because taking up less Room, it possesses less Metal than Cannon Powder.

VII. *To find what Ball is fit for any Cannon.*

IF a Ball is too little, the Powder has too much Vent, the Force is therefore diminished, and it will not fly so far; and if it be too big, it endangers the splitting of the Piece. The Rule therefore for fitting a Ball is this, *viz.* Divide the Diameter of the Chase into Twenty equal Parts, and take Nineteen of the said Parts, which will be the Diameter of the Shot required.

VIII. *How to dispart a Piece of Ordnance.*

TO *Dispart a Piece*, is to set such a Mark upon the Muzzle-Ring or thereabout, that a Sight Line taken upon the Top of the Base-Ring against the Touch-hole, by the Mark at the Muzzle; may be parallel to the Axis of the Concave Cylinder; and this Mark is accounted the Semi-Difference of the Diameters at the Base-Ring and Muzzle-Ring, but this is false if the Cannon is not true bored: For the visual Ray must be parallel to the violent Motion of the Shot, which is a Line that is traced by the Ball so long as it continues in a strait Line; and this violent Motion is, as it were, the
Axis

Axis of the Chafe continued; for it is the Concave Superficies that guides the Ball at first, which it continues till the Air has abated its Violence, and the Attraction of the Earth becomes greater than its Velocity; but the Axis of the Chafe is different from the Axis of a false bored Piece; therefore if the visual Ray be parallel to the Axis of a false bored Cannon, it is not parallel to the violent Motion of the Ball; and consequently the Semi-Difference of the Diameters at the Base-Ring and Muzzle-Ring is not the true Dispart, which is to guide the visual Ray parallel to the violent Motion of the Ball: The following Rule then will find the Dispart when the Chafe lies equal between the Trunnions, and tends upward or downward.

Take half the Diameter of the Chafe at the Breach, and add to it the Thickness of the Metal at the Base-Ring; take likewise the Diameter of the Chafe at the Muzzle-Ring, and add to it the Thickness of the Metal there, the Difference between these is the true Dispart.

IX. *To tertiate a Piece of Ordnance.*

IS to know the Thickness of the Metal at the Touch-hole, Trunnion and Neck, by which you judge of the Strength of the Gun, that is, whether it be well fortified or no; if the Piece be home bored, with a Calliber pair of Compasses, take the Diameter, from which subtract the Height, and divide by Two, gives the Thickness at any Place. There are three Degrees used in Fortifying each sort of Ordnance. *First*, Such as are ordinarily fortified are called *Legitimate*. *Secondly*, Such whose Fortification is lessened are called *Baslard Pieces*. *Thirdly*, Double fortified Pieces are called *Extraordinary Pieces*. Cannons double fortified have fully one Diameter of their Bore, in Thickness of Metal

at their Touch-holes, Eleven-sixteenths at their Trunnions, and Seven-eighteenths at their Muzzle.

X. *To fit Tackles to Guns.*

THE Fall must be cut so many times the Length of the Gun, as the Tackle shall have Parts; that is, from the Extremity of the Cascable to the Muzzle.

But for the better understanding the Advantage that arises from the Tackle, suppose a single Block, Tackle Fall, and Hook fastned to a Weight that requires a Force equivalent to a Thousand Pounds to draw it; a Man at each End of the Tackle Fall, with a Draught of Five-hundred Pounds will move this Weight, because the Strength or Power of both centering in the single Block, is equivalent to the given Weight. But suppose one End of the Tackle Fall to be fastned, and one Man only pulls at the other, it is evident that the same Force will do, as when both pulled, (a small Allowance being made for the Motion of the Sheave) for the fastned End holds or sustains Five-hundred Pounds, then the Man must pull Five-hundred Pounds, and both centering in the single Block, are equivalent to the Weight; supposing still the Weight a Thousand Pounds, let the Fall be reeved through a double Block, and one Part fastened to the Strop of the single Block; now if three Men lay hold of the three Parts of the Fall that proceeds from the single Block, in order to draw this Weight (imagining it to lye upon the Deck) each Man must pull $333\frac{1}{3}$ Pounds; whereas by turning upon the Sheaves, their Strength is united in the single Block, so that one Man with the Force of $333\frac{1}{3}$ Pounds, hauling at the loose End of the Fall, will execute the Business. Therefore the Force or Strength to be applied to the Fall of a double Tackle,

when

when the single Block is hooked to the Weight is, as 1 to 3 ; that is, as 3 .. 1 :: the given Weight .. Strength required. Or by this general Rule, As the Number of the Parts of the Fall proceeding from the Block hooked to the Weight .. 1 :: the Weight .. Strength required to hoist it.

Suppose then a Minion, whose Weight is 1100 Pounds, and the Carriage with other Materials 100 Pounds more, which makes 1200 Pounds, to run out such a Gun with a double Tackle, the single Block being hooked to the Carriage, requires a Strength equivalent to 400 Pounds to be applied to the Fall ; but with two double Tackles it requires but 200 Pounds to each Fall, so that by allowing a Man to each 100 Pounds, it will require four Men to manage such a Gun ; but if a Tackle with another Part be used, two Men will manage it with Ease.

Hence, the Weight of a Cannon being known, may be deduced this general Rule, *viz.* As twice the Number of the Parts of the Fall coming from the Block hooked to the Carriage .. 1 :: Weight of the Piece .. Strength required, which divided by 150, the Quotient gives the Number of Men required to manage such a Cannon. It is supposed that a Man on Board, setting his Foot against a Carriage, can better haul 150 Pounds, than a Man on the Land can drag 100 Pounds.

XI. *To fix Breechings to Guns.*

The Rule is, cut it twice the Length of the Gun.

IT has before been observed, that the Breeching are seized to two Eye-Bolts in the Sides of the Ship, a Method that is attended with no Inconvenience, if the Guns be not next the Bulk Heads or Counter, there
feldom

feldom being Occasion to move them from the Port in Time of Action: But for such as are placed near the above-mentioned Places, it perhaps would be better if they were hooked to the Eye Bolts, only Care must be taken, that at Sea they be fastened with Rope-Yarn: For if a Gun be traversed from the Side to the Bulk-head, &c. the Breechings are sooner hooked than seized, as it is necessary they should be fastened.



Rates of Ships.		Number of Guns.		Natures.		Length.		No. on each Deck.		What Decks they are on.	
2d.	90	32	9 1/4	26	Lower	6	28	26	2 1/2	10	52
		18	9 1/4	26	Middle	5	28	26	2 1/2	9	52
		9	9 1/4	26	Upper	4	28	26	2	8	52
		6	9	12	Quar. and Forecastle	4	27	12	2	7	24
1st.	100	42	10	28	Lower	6	30	28	2 1/2	10	56
		24	10	28	Middle	6	30	28	2 1/2	10	56
		12	9 1/4	28	Upper	5	28	28	2	8	56
		6	9	16	Quar. and Forecastle	4	27	16	2	7	32
Breechings.											
Tackles.											
Muzzle											
Lashings.											
Port Ropes.											
Port Tackle											
Falls.											
Size on each Deck.											
Length in Feet.											
No. on each Deck.											
Total for each Ship.											
Size on each Deck.											
Length in Feet.											
No. on each Deck.											
Total for each Ship.											

Rates of Ships.				What Decks they are on.				
Number of Guns;								
Natures.								
Length.								
No. on each Deck.								
6th	5th							
20	40	12	9	Lower				
	30	6	5½	Upper				
		6	8½	Lower				
		4	8	Upper				
			7½	Quarter				
			7½					
			20	Upper				
			20					
					Breechings			
					Tackles			
					Muzzle Lashings.			
					Port Ropes.			
					Port Tackle Falls.			
					Size.			
					Length in Fathoms			
					Number.			
					Size on each Deck.			
					Length in Feet			
					No. on each Deck.			
					Total for each Ship.			
					Size on each Deck			
					Length in Feet			
					No. on each Deck.			
					Total for each Ship.			

XII. *To make Cartridges.*

IF your Gun be taper bored your Cartridge Mould may be made by the Dimensions of the Bag mentioned in *Art. 3.*

How to cut the Paper to make the Cartridges, and to fix them, as also the Wads, Wad-nets, Ladles and Spunge Staves, is better learnt in the Gun-Room: But for Expedition it would be convenient, perhaps, to have Cartridges made of Parchment, twice as long as they usually are; let one Part be filled with Powder, after that a Wad, and then fill the other Vacancy with Musquet and Pistol Shot. These will be of excellent use when the Enemy is on Board; for there will be no Occasion to Spunge your Piece, and but one thrust to Load her with Powder and Partridge.

XIII. *How to fix Hand-Granades.*

THE Hollow of the Shell must be filled with good Corn Powder, the stronger the better. For the Fuze take an equal Quantity of Powder and Charcoal, and a third Part of either of these Quantities of Salt Petre; let these be beaten and sifted through a fine Sieve; with this Composition fill the Spiggot and drive it into the Hole in the Shell for that Purpose. You may try your Composition, and make it burn as long as you please, by proportioning the Charcoal.

IF you fear the Enemies tossing them back again, take grey Paper and dip it in Water where Salt Petre has been dissolved; cut this into Quarters as they do Leather for a Foot-Ball; let these be pasted upon the Shell with the following Composition, *viz.* Take a quarter of a Pint of Oil of Turpentine, a quarter of a

Q

Pound

Pound of Brimstone, half a quarter of a Pound of Pitch, and the same Quantity of Candle Tallow; melt all these together and mix them up with beaten Gunpowder till it is like a Paste, and lay it pretty thick upon the Shell, with Cotton primed, over this put your Paper; and because this will not keep the Quarters on, let them be cut to wrap over and so glued: Opposite to the Fuze put a piece of Cotton, that has been dipped in the Composition, and when you fire your Shell, touch this with your Match, and it will set the Paper on Fire, which will burn so terribly, that the most daring Fellow will not venture to return it: Or small Threads or Twists of Cotton may be made to branch from little Holes near the great End of the Spiggot all over the Shell, to carry the Fire to every Quarter.

XIV. *How to fix Powder Chests.*

NAIL two Boards together like the Ridge of an House, put under it a Cartridge of Powder, and close up both Ends; then make a Cover like a Sea-Chest without a Bottom, of a convenient Bigness, to put over it; fill the Vacancy with Pebble Stones, Nails, Stubbs of old Iron, &c.

Mr. *Park* is of Opinion that this Machine is not very disadvantageous to the Enemy: For if two Port-sails will prevent all Damage from an Hand-Granade, that flies with greater Force than the Pieces of a Powder Chest, the Nails and Stones that have their Motion from the Pieces of the Powder Chest, must be of small Effort; to supply which Defects, he proposes the following Contrivance, *viz.* Let a sort of Hand Granades, or Earth Shells, if the Word be not improper, be made of Clay, and hollow, after the Manner
of

of a Granade, with a small vent, some 3, 4, 5 and 6 Inches Diameter, while the Clay is flexible, let Flint Stones be put in and wrought up so, that only the sharp Points may stick out beyond the Surface; and let them be burnt in a Kiln till they are as hard and durable as Brick: As to their Form let some be triangular, some square, and others round. Let these be filled with Corn-Powder, and over the Vent let a Layer of beaten Powder be put: through the Boards next the Powder, let abundance of small Holes be bored, then lay these Earth-Shells with their Vents next the Boards with the Holes; nail on the Chest-part, and all is finished.

To fire it, a Hole must be bored through the Deck, into which put a hollow Pipe filled with Powder, with a Piece of Canvas tied over the lower End; prick the Canvas when you are going to spring it, then fire a Pistol at it, charged only with Powder without Wad: These are placed upon the Poop, Quarter-Deck, Fore-castle, Quarters, Bow and Head.

XV, *To make Powder-Pots.*

THEY are made of *Potters* Clay, with Ears to tye Matches, lighted at both Ends, and are to be filled with dry fine Powder; or, they may be filled with this Composition, *viz.* Take fine Powder mixed with some Brimstone beaten small; put therein some *Assa-Fætida*, some Pieces of Verdigrease, and some Camphire; these thrown into a Ship's Round-house, or between Decks, will be very offensive.

XVI. *How to prepare Powder Tubs.*

TAKE a Cask of about Eighteen Inches Diameter, and near two Foot long, that has good Staves, and is well hooped with wooden Hoops; in the middle of this, place a small Rundlet, having two Cross-Bars going through it and the Cask, to keep the former firm in its place: Let the Rundlet be filled with good Corn-powder, and bored full of Holes, with Canvas before them, that the Flash may fire the Earth Shells, which must fill the Vacancy between the Cask and Rundlet, being prepared as those are for Powder Chests. From the Rundlet to the Superficies of the Cask, a Pipe must be fixed, and filled with such a Composition as is prepared for the Fuses of Hand Grenades, to convey Fire to the Powder, this may be made for the Durance of three Minutes or less; from this let other Pipes branch to the Sides, to carry Fire to Earth Shells fixed to the Convex Superficies of the Cask, and so contrived, that one of them may break almost every quarter of a Minute or finer. After this, head the Cask up tight, with a wooden Mallet, that no Water may penetrate. Set one upon each Quarter ready slung, and in the Fore-Chains, or upon the Fore-castle, when going to engage.

If no Opportunity present of firing these after the Manner designed, yet they may be serviceable, if, when the Enemy is aboard, and numerous, you spring them as you do your Powder Chests: For the Springing them either Way, you must have from your Close Quarters a Conveyance to carry Fire to the above-mentioned Pipe.

XVII, *A Catalogue of the Gunner's Stores.*

*Proportioned to
the Men.*

{ Cannon, Blunderbusses, Musquets,
Pistols, Cutlasses, Pole Axes,
Half-pikes moused a third from
the Great-end, Javelins, Granades.

*The Magnitude
and Quantity,
proportioned to
the Cannon and
Voyage.*

{ Carriages, Beds and Quoins, Blocks,
Thimbles and Tackle-Hooks,
Rope for Tackles and Breechings,
Tampioms in forts, double and
single Blocks, Port-ropes, spare
Axletrees and Trucks, Iron-
Crows and Gunners Handspikes.

*The Magnitude
and Quantity,
proportioned to
the Cannon and
Voyage.*

{ Worms, Ladles, Spunge-Heads and
Staves, Heads for Rope Spunges,
Cannon Powder, Shot double and
round, Match, Cartridge Paper,
Glew and Starch, Needles and
Thread, Marline, tarred Twine,
Linch Pins, Splice Irons, Staples
and Rings, Sheet Lead, Lan-
thorns and dark Lanthorns, Car-
tridge Moulds, Formers and
Boxes, Pouch Barrels, Powder-
Horns, Priming-Irons, Powder-
Measures of Wood, Soap and
Tallow, Moulds to cast Leaden
Bullets.

*These are propor-
tioned to the small
Arms and Voyage.*

{ Iron Worms for the small Arms,
Oil, Flint Stones, Musquet Pow-
der and Ball, Pistol Powder and
Ball, Cartridge Boxes, Cartridge
Paper.

Instruments proportioned to the Gun Room Crew. { Scales and Weights, Jacks to mount Guns, Calliper Compasses, an Hand-Vice, Files, Heights for Shot, a fine Sieve, Mallets, Marine Spikes, Nippers, Pliers.

Combustibles. { Brimstone, Charcoal, Salt-Petre, Oil of Turpentine, Oil of Petrol.

And what other Necessaries he thinks needful.

A Catalogue of the Armourers Tools according to the Directions of the Navy.

A Vice, Hand-vice, Wrench, Hand-hammer, two small Hammers, Drill Bow, Breast Piece, Iron-Brace, three square Bits of Sorts, twelve Punches and cold Chizzles, Rubber Poize 3 Pounds, Hand Files Poize 1½ Pound, Six 6d. Ditto, Twelve 2d. Ditto, One 12d. smooth, 9d. Ditto, 6d. Ditto, 3d. Ditto, Stake Poize 4 Pounds, Screw Plate, Slitting File, Two 8d. Bastard Files, One large ditto, Two Knots of Drill-String.

To find the Weight of Metal.

General R U L E.

The Weight of all Spheres, is, as the Cubes of their Diameters.

Example.

If an Iron Ball of 4 Inches Diameter weighs 9 Pounds, what is the Weight of another, whose Diameter is 8 Inches? *Answer* 72 Pounds. For as 64 (the Cube of 4) .. 9 :: 512 (the Cube of 8) .. 72.

The Proportions of Metal.

Lead is to	{ Iron	{ 2	{ 3
	{ Brass	{ 24	{ 17
	{ Stone	{ 4	{ 1
Iron is to	{ Brass	{ 17	{ 18
	{ Stone	{ 14	{ 5

These Proportions are very near the Truth ; hence may be calculated (if Iron Shot be wanting) what Height and Weight either Shot of Lead, Brass or Stone, ought to be of, to fit any Piece of Ordnance. The Stone here meant is Marble or Pebble Stone.

The CONDUCT to be used in Chasing.

I. *A Merchant Ship is to make the best of his Way from an Enemy.*

THough a Ship be well supplied, and fitted for a Close Fight, yet a Merchant Commander is not obliged to Fight, if he can with Safety shun it : For a Merchant Ship is not sent to Sea to annoy the Enemy, by venturing his Cargo ; but to encrease the Trade of the Nation, the Public Revenues, and employ the Poor ; therefore whenever he can depart from an Enemy, without the Hazard of a Battle, it is Prudence so to do ; and if he should be chased, he ought to embrace every Advantage that can be taken, either by Wind or Tide.

II. *The Enemy being in the Wind's Eye, 'tis best for a Three Mast Vessel to sail Quartering.*

THE Ship chased having the Liberty of choosing her Course, may steer how she pleases ; but the Master in making

making his Choice, is to pitch upon that, which will answer best, which is to prolong the Time that the Night may cover his Escape, or he may meet with a Friend to rescue him; and the best Way to effect this, is to sail *right afore the Wind*, or *Quartering*, according as the Vessel is rigged. If a Ship has Three Masts it is best to sail *Quartering*, because Experimentally it is found, the swiftest Motion such a Ship can make through the Sea, and it must be observed the *Sails are but just drawing*, that the Enemy may have no Advantage of *shortning his Way*; for if the Enemy go *right afore the Wind*, then will he only have his after Sails drawing, which is not above half the Canvas; while the Chase *quartering* has all her *Sails drawing*.

But suppose the Enemy sails *quartering* also? Well, then he'll keep a *parallel Course* with the Chase; or rather his Course will incline to the Windward, because his Yards being (as most Privateers are) squarer than Merchantmen, he must bring the Wind more Points upon the Quarter, that all his Sails may *draw*, and if he pursues this Method, he must at last bear down to the Leeward before the Wind into her Wake.

III. *A Ketch Sails best right afore the Wind.*

THE Reason is, because the *Mast* of a *Ketch* has a greater Proportion to her *Hull*, than the *Main-mast* of a *Three Mast Vessel*; the same may be said of the squareness of their Sails; and the *Main-sail* and *Main-top-sail* being thus larger in Proportion, gives her more Way through the Sea.

IV. *The*

IV. *The Enemy to Windward, what Conduct the Chase must use to get to Windward.*

Suppose the Enemy directly to *Windward*, the *Chase* must then first sail *Quartering*; if the Enemy bear down *afore* the Wind, then she may gradually bring the Wind *forward*, till it is upon the *Beam*; and if the Enemy still bears for your *Wake*, loof as he gains it, till you are hauled sharp, and he in your *Wake*; then make the best of your Way to *Windward*. Here you must be cautious of *Tacking*; for if you be but a little *weatherly*, and you stand with your *Larboard*, and he with his *Starboard* Tacks aboard, you will give him the Opportunity, if not of weathering, at least of getting within Shot of you; and the Consequence of that may be the Loss of a Yard or Mast.

But if the Enemy steer *Quartering*, or inclining to *Windward* of the *Chase*, then if he out sails you, and is far upon the *Quarter*, bear away, and get the Wind upon the other *Quarter*; if the Enemy keep his Course designing for your *Wake*, gradually bring too, and try if you can get to the *Windward* upon that *Tack*; perhaps some will think it best (perceiving such Conduct in the Enemy) to sail *Quartering*, or *afore the Wind*, because it is to be supposed the Enemy will bring the Wind upon the other *Quarter* when you do; if he should not, you may perhaps be favoured with an Opportunity of getting to *Windward*.

V. *The Chase to Windward, and ply to Windward.*

Under this Head the *Chase* must be considered directly in the *Wind's Eye*, or but some Points to the *Windward*. If

If the *Chase* and *Enemy* be under the first Position, and the *Chase* stand away with her *Larboard Tacks* on Board close hauled, it is evident that the *Enemy* cannot lye in her *Wake*; and it may be assured that his Conduct will be to keep a parallel Course, or sail with his contrary *Tacks* on Board till he fetch her *Wake*. Under both these Courses we will consider him *steering* for the *Chase*.

1. Suppose at first Sight of the *Enemy*, the *Chase* cling close upon a *Wind*, with her *Larboard Tacks* on Board. Then suppose the *Enemy* *steer* away with his *Starboard Tacks* on Board, designing to fetch the *Chase's Wake*. In this Case tacking signifies nothing, there being *Sea-Room* enough and no *Currents*; for imagine the Ship to sail as fast upon one *Tack* as upon the other, she will not make the *Chase* longer, but rather shorten it: for each time a Ship *tacks*, she loses so much *Way* as she will run *Knots* in the time of *Tacking*; besides a Ship does not recover her *Way* as soon as she is about. In not tacking this Disadvantage is not only removed, but you are in the *Way* of several considerable Advantages; for should a *Calm* happen, the *Chase* is so much the farther from the *Enemy*, if the *Wind* should come about after it; likewise if the *Weather* should prove thick, or *Night* come on, she would lose Sight of him the sooner. Lastly, Just as the *Enemy* is in the *Chase's Wake*, she may bear away a Point from the *Wind*; this may not be presently minded by the *Enemy*, who will keep his *Loof*, and so the *Chase* will increase her Distance; and should the *Enemy* perceive it, he will not be much better for the Discovery, because being to *Leeward* of the *Chase's Wake*, he must sail close hauled to fetch her, while she steers a Point from the *Wind*,

2. But

2. But should the Enemy keep a parallel *Course* with the *Chase*, then the Master's Conduct will be to *tack* immediately, that he may be in the *Way* of the above-mentioned Advantages ; and if the Enemy tacks as soon as the *Chase* is about, and *fetches* upon her ; then you must prepare for a Fight, and discharge your Duty to your Country.

VI. *The Enemy some Points to Leeward.*

IF the *Chase* be some Points to *Windward* of the Enemy, suppose five ; if the *Chase* under this Position design to ply to *Windward*, she may sail upon either *Tack*, there is no Difference, unless she sail better on one *Tack* than the other, which get on *Board*.

VII. *The Enemy to Leeward, the Conduct the Chase must use to get to Leeward.*

IF the *Chase* design to bear away *Quartering*, thinking by this means to *wrong* the Enemy, it ought not to be done, till the Enemy has the *Chase's Wake* ; for if the Helm be a Weather, before the Enemy is in your *Wake*, he will stand *thwart your Fore Foot*, and be the sooner within Cannon Shot ; and when the Enemy is in your *Wake*, if you bear down at once, he may be within Shot before you get to *Leeward* ; therefore it is (probably) the best Conduct not to bear away *Quartering*, till you have wheeled the Enemy into your *Wake*, with the Wind upon the Beam.

VIII. *The*

VIII. *The Enemy and Chase making a Right-angle with the Wind.*

Captain Robert Park (to whose ingenious Performance I am obliged for this Part of the *Vade-mecum*) in Page 84, *Seet.* 9. demonstrates the Disadvantages that will attend the *Chase* in *Loosing* and *bearing away* before the Wind; and esteems it the best Conduct to fail Quartering with all her Canvas just drawn; for then if the Enemy fail Quartering with all his *Canvas drawing*, he keeps a parallel *Course* with the *Chase*, and must at length fail with the *Wind upon the Beam*, to come close with the *Chase*; or else the Enemy must fail with the Wind upon the Beam, to fetch the *Wake* of the *Chase*, which will prolong time; for the *Chase* increasing her Motion before the Enemy is in her *Wake*, will gain considerably; but for *Coasters* that have not Sea Room enough, it (perhaps) may not be so necessary to make Use of the Advantages above-mentioned.

IX. *The Enemy in the Wind's Eye, and a Current setting to Leeward.*

IT is diligently to be considered on what Point of the Compass the Tide sets, and whether the Enemy be to *Windward* or *Leeward* of the *Chase*; if he happen to be directly in the *Wind's Eye*, and the Tide set to *Leeward*, the *Chase* may steer away afore the *Wind* and *Tide*, or Quartering, as Experience shall direct him for the safest *Course*. It is certain that by failing Quartering, a Ship receives Advantage from all her Sails being drawn, also from the Tide being upon her Quarter; but whether the Advantage arising from all her Sails being *drawn*, be greater than the Advantage of going

going right *afore* the Tide, is a Question that (perhaps) nothing but Experiment can determine.

Concerning the Motion of a Ship in a Current, three things are to be considered, First, the *apparent* Motion of a Ship, caused only by the *Wind* or *Oars*, which Mr. *Norwood* calls the *Simple Motion* : Secondly, the *Motion* of the *Current* ; and lastly, the *Compound Motion*, made by the two former.

Some have undertaken to explain these Motions, by the creeping of an Insect upon a Plane, or the Walking of a Man upon a Ship's Deck ; but how this can be applied to *Currents* does not plainly appear, if the Cause of the Motion of a Man, and that of a Ship be considered.

The Man's Motion is by extending his Feet upon the Deck's Surface ; and while he is moving, one of his Feet always bears upon the Deck, and the moving Foot pressing upon the Deck, gives itself *way*, then swings forwards, and causes the Simple Motion of the Man, or that we call Walking : Now one Foot being always thus fixed, must consequently be hurried away with the Deck, and so make the Side Motion ; or to use a Sea-Phrase, the *Drift-way* of the Man equal to the Motion of the Ship's Deck.

The Cause of the Ship's Motion is different from the Man's, as are the Planes they move upon ; for the Ship is moved by the Agitation of the Air, and has no Part fixed upon the moving Plane ; and the Element being flexible, she cannot have her *Drift-way* equal to the Motion of the (Plane, that is, the) Current : And this is evident in sailing *afore the Wind* thwart a *Tide-way*, where the Wake in the Water keeps not right *a-Stern*, but according as the Motion of the Ship is more or less, so the Wake is more or less carried to the *Driftward* of the Ship.

Suppose the *Tide* to be a Plane, moved 12 Miles in 4 Hours, and suppose a Ship in a Calm *driving* with a Tide, who can affirm that she *drives* at the Rate of 3 Miles an Hour, equal to the Velocity of the Tide? For some Bodies drive faster than others, as they have more or less hold of the Water: whereas upon a firm Plane, (such as a Ship's Deck) if you lay Bodies more or less ponderous, they keep Time with the Plain, and are all moved with the same Velocity.

The Reason for one Body's moving faster than another in a *Tideway*, perhaps may be thus accounted for; if no Part of the Body be above the Surface of the Water, it is carried with a Velocity very near equal to the Stream; but if some Part of the Body be above the Surface of the Water, it receives some Obstruction from the Atmosphere, and the Plane from whence it has its Motion being flexible, separates, and consequently does not carry the Body with a Velocity equal to the Tide: And this may serve for a Reason, why loaden Ships drive faster in a Calm than light.

The Wind must also be observed, for if the Wind blows with the Tide, (it is plain) it makes the *Drift-way* more, and so on the contrary, less.

So likewise the Position of the Ship with the Current, makes the *Drift-way* and *Compound-Motion* more or less, according as the *Tide* sets upon the *Bow*, *Broadside*, *Quarter*, right *a-Head* or *Stern*.

X. *The Wind and Tide making an Angle, and the Enemy to Windward.*

THE Enemy directly in the Wind's Eye, and the Tide making an Angle with the Wind, and running to Leeward.

Under

Under this Position, it is indisputably the best of the Chase's Conduct to sail *Quartering* with the *Tide right a-Stern*, if the Angle be but three Points or thereabouts ; but when it is more than six Points, it is the Chase's best Conduct to keep the *Tide* upon the *Lee-quarter*, and thus the Enemy can have no Advantage ; for if he bears down *afore the Wind* for her Wake, he will have the *Tide* farther *forward*, and so the Chase will receive the greatest Benefit from that, and if he stands *away Quartering*, at last he must bear down *afore the Wind* to gain her Wake.

XI. *The Wind making a Right-angle with the Tide, and the Enemy to Windward.*

IF the Wind blows cross the *Tide*, and the Enemy directly in the Wind's Eye, and the Chase designs to sail to *Leeward*, the best Course she can steer is with the Wind upon one Quarter, and the *Tide* upon the other ; for if the *Tide* be brought upon the *Weather Bow*, the Ship will not go so fast through the Water as when it is upon the *Lee-Quarter* ; and should the Enemy come *afore the Wind* into the Chase's Wake, while she is sailing *Quartering* with the *Tide* upon the *Bow*, he would not receive so great a Check from the *Tide* upon his *Beam*, as the other does from it upon her *Bow* ; and so consequently he will be in her Wake sooner ; neither will the Enemy receive such Advantage from the *Tide* upon his *Beam*, as the Chase shall from it upon her *Quarter* ; and therefore he will be longer in gaining her Wake, when the Chase sails with the Wind and *Tide* upon different Quarters.

XII. *Under the last Position, the Chase attempting to get to Windward.*

IF the Chase in the Position mentioned in the last Article, would go to *Windward*, she must first go *Quartering* with the *Side* before the *Beam*, until the Enemy is in her *Wake*; then may she bring the Wind a Point or two more forward, and so *loof* at Discretion, till she can haul close upon a *Bow-line*, and by Degrees drill the Enemy wholly to the *Leeward*: Then, if the Tide run hot, he may as soon as she is in the Eye of the Tide, let drop her Anchor, and ride 'till the Tide be done, or the Enemy gone. The Reason for bringing the Wind upon this Quarter, is, because you gain the Tide of your Enemy; for should you attempt it the other way, the Enemy may come down before the Tide (with the Wind upon the Beam) upon you while you are *loofing*. But once for all, (says Mr. Park) I esteem it high Imprudence, for a Master to attempt getting to *Windward* of the Enemy, unless his Ship sails indifferent well, *large*, and better by far upon a *Bow-line*.

XIII. *The Chase and Enemy making a Right-angle with the Wind, and the Tide running directly to Leeward.*

IF a Ship goes faster with the *Wind* and *Tide* upon the Quarter, than before the *Wind* and *Tide*, 'tis best sailing *Quartering*; but if she sails faster before the *Wind* and *Tide*, than with both upon the Quarter, 'tis then best sailing between two *Sheets*: For if the Chase sail away before the *Wind*, the Enemy must keep a parallel

parallel *Course*, or steer *Quartering*, or with the Wind just *abaft* the *Beam*, for her *Wake*, which will prolong Time, if sailing *before* the *Wind* and *Tide* be the swiftest Motion : But if sailing with the *Wind* and *Tide* upon the *Quarter* be the swiftest Motion, and the Chase sails so, the Enemy must gain her *Wake* before she can sail so, which will prolong Time ; or the Enemy must steer a parallel *Course*, and at last alter that to come up with her.

But it not being certain which of these is the best Conduct, the Chase had better sail away with the Wind upon the *Beam* ; and it may (perhaps) be found a Piece of Imprudence to haul sharp.

XIV. *Suppose the Tide sets from the Chase to the Enemy and the Wind.*

IN this Case, as well as in several others, the Conduct of the Enemy turns the Methods which the Chase designs for her Advantage, to her Ruin ; therefore before the Master tries to take any Advantage, he must weigh every Circumstance, and consider whether any thing of bad Consequence may offer by an Alteration of the Enemy's Conduct.

Suppose the Wind blows due South, the Tide sets due East, and the Chase due West from the Enemy ; could then the Chase get four Points to Windward of the Enemy, she might give them the Slip, by prolonging the Chase ; but in performing that, she may be made a Prize before it is accomplished ; for if the Chase bring *too*, and steer *close-hauled* North Westerly, with in $5\frac{1}{2}$ Points of the Wind, the Enemy may also steer North Westerly *Lasking*. This Conduct is also attended with another Disadvantage, for she receives the Tide upon her *Lee-bow*, which holds her up to the

Windward, and though it makes her gain *weatherly*, yet it shortens her Compound Motion ; whereas the Enemy steering *Lasking* as above, with a *flown Sheet*, does not receive such a Check from the Tide, as the Chase, and consequently shortens the Way ; for receiving the Tide farther forward than the Chase, and the Wind more *ast*, she goes faster through the Water. This may be evident by putting a Wedge in the Water, and fastening a string to the Acute End, put the Wedge in a pretty strong Tide-way, and a small Piece of Twine will *ride* it ; make fast another Piece of Twine to the great End of the Wedge, and draw it sloping upon the Stream, you will find the *Strain* sensibly encrease ; and the more sloping it comes, the more the *Strain* will encrease, 'till it break the Twine, or come *abwart* the Stream. The Application is plain, for the Chase receives more of the Tide upon her Broadside than the Enemy, and consequently is more pressed towards the North.

The same Reason is to be alledged against sailing Quartering ; for then the Chase has the Tide pressing three Points *before* the *Beam*, upon her *Broadside* ; whereas if the Enemy sail with the Wind a Point or two *abaft* the *Beam*, he shortens the Time of gaining the Chase's Wake, by having the Tide almost right a-head, and consequently he will be the sooner up with her.

Wherefore to prevent both these, it is best steering with the Wind upon the *Beam* ; and by keeping in this Position, the Chase has the Advantage, if it should prove Calm, by being directly to *Tideward*, or in the Eye of the Tide.

XV. *But admit the Tide sets from the Enemy to the Chase.*

IN this Case it is best sailing Quartering ; for if you fail away with the Wind upon the Beam, the Enemy will be in your Wake, so that if it should prove Calm, he may *Tow* away before the Tide for you ; and if the Wind continue, all you can get is by failing, and as for *hauling close* upon a Wind, that is rejected, before, and the Tide setting from the Enemy to the Chase, removes not those Disadvantages ; neither will the Chase have better Fortune in failing *before* the Wind, for then the Enemy will shorten his Way by Quartering with the Tide upon one Quarter and the Wind upon the other, which is (perhaps) the quickest Motion in a Tide-way, except Quartering before the Tide ; whereas if the Chase sail Quartering, she has the Advantage of the Wind and Tide last mentioned, and if the Enemy comes before the Tide with the Wind upon the Beam, he will (perhaps some will say) by the Favour of the Tide, recover the Disadvantage of the Sails, and so shortly gain the Chase's Wake ; but whether that will be equivalent to the Circumference taken, is left for the Mariner to determine ; and as for his steering directly for the Chase, that will not be so quick a Motion as having all the Sails just drawn, and the Tide upon the Lee-quarter.

XVI. *The Enemy to Leeward, and the Tide setting to Windward.*

IN this Case it is plain the Chase must ply to Windward, unless the Master designs to try the Fortune of a Battle. In doing this, Care must be taken to keep
in

in the best of the Tide, and not to stand into Eddies and Counter Tides; and when the Tide is done, Care must be taken to *bring up* in Time, unless a Counter Tide, the Wake of some Sand or Point of Land favour the Chase, or by being of a small Draught of Water, she may work to the Windward close in with the Land.

XVII. *The Enemy to Leeward, upon a Leeward Tide.*

AT first Sight of the Enemy, the Chase must *bring up* and *ride* till the Tide be done, unless the Opportunities mentioned in the last present themselves.

XVIII. *The Wind three or four Points off Shore, the Enemy to Leeward, and a Leeward Tide.*

IT is evident, that neither the Chase nor the Enemy can lye *along Shore*; and if they stand *close hauled*, and the Tide as we suppose, set *along Shore*, they receive it upon their *Weather Bows*, and are hurried off into the Sea. What Advantage it will be for a Ship to put from the Land with an Enemy in Chase, let the Master judge, who is best acquainted with the Condition of his Vessel, the Circumstances of his Prince upon that Coast, and the Mutation of the Weather. What will be the Consequence of *bringing up*, we will here examine.

Suppose the Tide set parallel to the Coast, the Wind blowing about three Points *off Shore*, the Enemy $4\frac{1}{2}$ Miles to Leeward of the Chase, and both *along Shore*:
Then,

Then, if the Enemy lye within $5\frac{1}{2}$ Points of the Wind, he receives the Tide upon his *Weather Bow*, and the Point he *makes his Way good* upon is not easily known; for if there be but little Wind the Way is more Leewardly than with a brisk Gale: However, suppose he *makes his Way good* within 7 Points of the Wind, if he *stand* 'till with his other *Tacks aboard* he can fetch the Chase, he must not *put about* until he is so far in the *Offing*, that he will not be able to discern the Chase close under the *Land*, who may *trip* her Anchor and *drive*, while the Enemy is *standing off*, then *wear* her, and run close *along Shore* *Quartering*; by that time the Enemy is so far in (as to see the *Roader*, had he not weighed) the Chase will be out of Sight, and perhaps under the Covert of some Fort, &c.

But some perhaps will say, the Chase had better at such a Juncture *work to* Windward; for by such a Conduct he prolongs the Chase, whereas this Stratagem of *bringing up* and then *wearing*, is dangerous; for should the Enemy espy you when your Canvas is spread, he will have you *Lasking*.

It is granted that in working to Windward, the Chase may prolong her Time, if she might *stand off* so far as the Enemy, without any apparent Danger; but the Inconveniencies mentioned, confines the Chase to work under the *Land*, where the Tide runs strongest; when the Enemy makes long *Boards* out in the *Offing* where the Tide favours him, and so consequently he will be the sooner up with the Chase.

And as for the Enemy's seeing you, that is a Bugbear; for he being far in the *Offing* under the *Land*, it appears hazy to him; but what if he does see the Chase, he being at a considerable Distance must come in with the Wind upon the *Beam*, while the Chase sails along *Shore* *Quartering*; and when the Tide is turned, the Chase will have a double Advantage, for she going along the *Shore* *Quartering* stems it, when the Enemy receives it.

it upon her *Lee-Bow*, having the Wind a Point *afore* the *Beam*.

Notwithstanding all which, it is adviseable that the Master consult the Strength of the Tide, and then direct himself according to Judgment.

XIX. *The Wind three Points out of the Sea, a Leeward Tide and a Leeward Enemy.*

IN this Case the Chase cannot have the Opportunity of giving the Enemy the Slip when he stands off; because if she bears away, when the Enemy *stands off* she must run between him and the Land, and so he will have a better Opportunity of seeing her; or if he should not before he *tacks*, yet then standing up to the Chase, she will scarce be far enough to the *Leeward*, by that time he is in with the Land; so that if the Chase cannot work under the Land, nor dare to venture off, all that can be said, is to prepare for a Fight, and give the Enemy a warm Reception; but not *stand* away till you are sure the Enemy will *weather* you.

XX. *Advantages may be taken where there is an Alteration of Tide.*

IN some Places the Tide runs different in the Space of a Mile or two, as between the *Suffolk Coast* and Coast of *Holland* and *Zealand*; as upon the latter the Flood sets to the Southward, and upon the former to the Northward; so that in a Chase *half Seas-over*, a prodigious Advantage may be taken by an experienced Coaster.

Likewise in most Places, the Tides run longer in the Offing, than close in with the Shore, also the Indraughts before Rivers alter the true Set of the Tide

Tide the Tide; as between *Orfordness* and the *North Foreland*, before *Humber*, &c.

All which ought to be seriously considered by the Master, whose Duty is to know the true Set of the Tide, where it alters, and at what Time, where it runs longest, and where it runs strongest, &c. This Mr. *Park* highly recommends to the Study of young Seamen, and gives them the following necessary Instructions, for the more successful making Experiments, viz. let them prepare a Book in Folio, rule ten Columns on each Leaf; in the first set the Day of the Month the Experiment was made; in the second, the Moon's Age; in the third, the Time of the Tide; in the fourth, the Name of the Coast; in the fifth, the Depth of Water; in the sixth, the Point of the Compass the Tide sets upon; in the seventh, the Knots it runs; in the eighth, the Wind; in the ninth, the Bearing of two remarkable Places from the Boat or Ship, when the Experiment was made; and in the tenth, how long since any great Rains upon the Coast, if you can get Information.

XXI. *Advantages to be taken among Shoals.*

WHEN the Chase is among *Sands*, *Rocks*, &c. and neither Sailing, nor the Advantage of the *Currents* variously Setting will Profit, then may the Master (if his *Vessel* be of no great Draught of Water) work among those *Sands* and *Rocks*, and draw the Enemy out of his Knowledge; and if the Stratagem should take, and the Privateer run a-ground, without Doubt the Master will know what Use to make of such an Opportunity.

But if Danger is apparent, the Enemy will not venture to follow the Chase, of which we have several Instances.

XXII. *How*

XXII. *How two Vessels must act when chased.*

THIS is a very copious Subject, for two Vessels may be in Company, and not able to encounter one Enemy ; it is therefore the Conduct of the Masters so to *shape* their *Courses* respectively (under every Position with Wind and Tide) that one at least may escape : But this Branch of the Doctrine of Chasing, has not been treated of, by any Author I have met with ; Capt. *Park* having only laid down these three general Rules, *viz.*

1. If the Enemy be to Windward, let both go Quartering, with the Wind upon their contrary Quarters ; and when by the Enemy's Conduct, it appears which he will Chase first, let the other *steer* away with the Wind upon the *Beam* ; and by that time the Enemy has taken his Consort, he will not only be to Windward, but a great Distance likewise from him.

If the other Vessel happen to *lay* the Enemy before his Consort is taken, the Master's best Conduct will be to haul upon a *Bow-line-Tack*, and get into the Wind's Eye, that the Enemy may upon neither Tack fetch the Chase.

2. If the Enemy and they make a Right-angle with the Wind, let one go away Quartering, and the other a point from the Wind : If he chase the *Leewardmost*, let the *Weathermost* Tack as soon as the Enemy is directly to *Leeward*, and stand the other Way to encrease the Distance.

3. If the Enemy be to *Leeward*, let one stand with his *Starboard*, the other with his *Larboard* Tacks on Board ; and when it is perceived which the Enemy will chase, the other may go a Point from the Wind to encrease the Distance.

DEFIN.

DEFENSIVE FIGHTING

In GENERAL.

I. *The Necessity of Merchant-mens Fighting.*

IF the Enemy come up with the Chase, notwithstanding the Master's taking all Advantages to be gotten by *Wind* and *Tide*, as prescribed in the preceding Part, he must then either Fight, run a-shore or Surrender ; and in some Cases it is impossible to prevent falling into the Enemy's Hands, as when unprovided they have the hard Fortune to meet with one greatly superior in Force ; unless their Resolution run so high, as to be resolved to dye upon the Spot, rather than to bear the Insults of the Captors, or endure the Miseries of a Prison : And when a Merchant Ship cannot otherwise well discharge herself, the Necessity of Fighting is evident ; for no Man is so devoid of Reason as not to know, that it is his peculiar Interest to defend his Property, unless he will toil and labour for others, and like the Sheep patiently endure the Shearing of his Fleece : And it is certainly far more tolerable as well as reputable to perish like the Bee in the Hive, than by a cowardly Submission part with the Honey to every Drone, and consequently left to starve for want of that he has been working for.

II. *How to prepare all Things for a Fight.*

THE first Thing necessary is to prepare the Ship for an Engagement, and then Quarter the Men, for this ought never to be delayed till the Enemy is coming *on Board*.

An Officer ought to be in each Quarter to encourage the Men, and excite them to their Duty by an exemplary Bravery : To the Master ought to be assigned the *Round-house*, as the most proper Place for him to observe the Motion of the Enemy, whereby to govern his own Actions ; besides out of this Place, the Sally is to be made first, in which the Master ought to be the leading Man, as in the Retreat he ought to be the last. If the Ship carry Fourteen Hands, he may be allowed Three, when the Enemy is on Board ; if but Twelve, then he must have but Two ; but while the Enemy is cannonading you, he must have but One if there be Two Guns on a Side, and none if but One on a Side ; for where there are but few Hands the Master must turn to the Cannon, and one Man will manage One, such as our Colliers, &c. carry in their *Round-house*. In the *Steerage* must be the Gunner, or when the Enemy is in your *Wake*, in the *Great Cabbin*, having two Men to each Gun on a Side.

The *Forecastle* falls to the Mate's Share, where he is at Hand to manage the *Fore-braces* ; with him must be Men proportionable to those in the *Steerage*. To each of these Quarters must be a Boy to fetch Powder. The Business of the Carpenter is to look after the Ports, that none be prized open, and to be every where looking for Shot Holes, to plug them up ; for this Purpose he must have *Shot-Plugs* in Readiness, for though he dare not venture to stop a Shot-Hole when *Board* and *Board*, yet at a Distance he may, either by *bearing* up or *tacking*, so as the Shot-side may be from the Enemy.

Each Man knowing his Post and whither to retire, it is proper next to have the Ammunition divided, and the Share that falls to the *Forecastle*, may be set forward or before the *Cable-Tire*, or if a Place was provided before the Mast under the *Lower-Deck* upon the

the Breast-Hook, though never so small, it would be very convenient in Case the Ship should be *boarded* in the Night, when it would be dangerous and almost impracticable to get Powder forward, for want of which, the *Forecastle* must be taken. If a Master will not be at this Charge, it would be convenient (for the above-mentioned Reasons) every Evening as soon as the Fire is out, to carry the Powder and Small Arms forward; and that in the Pouch-Barrels must be placed before the *Cable-Tire*.

Every Evening, or at the Sight of an Enemy, the *Shutters* are to be put up, and the *Leaves* let down, the *Hatches* and *Gratings* lashed or bolted, and forelock'd, this is the Carpenter's Work: He is likewise to see that all *Bars*, *Bolts* and *Hinges* of the *Doors* are in good Condition and move freely; for if they go hard, the Enemy may be *on Board* before they can be fastened.

In all Quarters must be *Match* ready *primed*, and in the Night some lighted.

There must be Water in each Quarter, filled at the Sight of an Enemy, or every Night. In small Ships Water Tubs in the Tops are not necessary, because no Hands can be spared to manage them if there be Occasion; but for great Merchant-men, it might be convenient, if a Cock was fixed to the Bottom of the Tub, and under that an *Hose* with a Brass Spout fixed to the End near a Yard long, which may be coiled upon the *Cat-harpings*; and if the Courses take Fire, it is but turning the Cock and directing the Spout thereunto.

This will not carry the Water to the Top-sails, as it will not ascend higher in the *Hose* than that in the Tub; but an Engine in the Nature of an Hand-Pump may supply that Defect.

If the Weather is moderate, the *Low-yards* ought to be slung every Night; for if an Enemy should on a sudden *board*, or appear near you in the Dark, it

would be difficult to find a Man to go up ; besides it would not be prudent to expose Men to be cut in Pieces, when the thing may be prevented without any Danger : And if a Squall should happen the *Yard* may be *unslung* before it is ready to lower, but Ships seldom lower those *Yards* at Sea. The *Mizen-Yard* is included among the *Low Yards*, and ought to be slung as well as any of the other ; for if the *Geers* of that *Yard* be cut, and it run down, the Enemy may carry the *After-Part* over one Quarter, and the *Fore-Part* over the other, and so cover themselves from the Shot of the *Forecastle*, which is all the Advantage the Enemy promises himself, by cutting down the *Main-Yard*.

Before you engage, your *Top-sail-yards* are to be slung at the Sight of an Enemy, if the Weather be not squally.

The Gunner is to take Care that nothing lies in the Way of the *Trucks*, and that the Axletrees be smeered, for it hath been proved, that if one of the *Trucks* of a Gun be fast when it is fired, it will shoot wide of the Mark. When the Enemy is almost within Shot, if it be smooth Water, the Guns must be *loose* in the *Tackles* and the Ports knocked open ; but if there be not *Breechings* to the Guns, it may prove of ill Consequence in an Engagement ; for when a Gun is hot if the *Tackles* be loose, it will run in and *unreeve the Fall*, and to keep it fast is as dangerous on the other Hand, because the Men must go out to Sponge it, or haul it in ; all which *Breechings* prevent.

In the *Gun-Room* or Cable-Tire before, must be Lanthorns hung some Distance from the Powder, for the Boys to see to take *Cartridges* out of the *Pouch-Barrels*.

III. *Stratagems used in escaping an Enemy.*

Notwithstanding the *Ship* is prepared for a Fight, yet if the Enemy be too formidable, it is the Master's best

best Conduct, especially in a small *Vessel*, to have Recourse to Stratagems; which indeed are not to be thought of at all times, neither is it possible to give Rules in all Cases; but that the ingenious and industrious Mind may improve, Mr. *Park* has given us the following Specimen, *viz.* 1. A Means of avoiding the Enemy's boarding you may be, (if you are in Soundings) by letting fall an Anchor suddenly, at the very Point when you find the Enemy's Ship upon Boarding you, the which he not at all suspecting, nor being prepared to do the like, it will follow, that the Tide (especially if the Wind and Tide happen to be at one, or that it be a Calm) will so suddenly carry him to *Leeward* of you, that he shall not possibly be able to recover himself; nor get to *Windward* again, until the turning of the Tide, in which Interim your Retreat may be favoured by some lucky Accident.

This Stratagem out of a *Tide-way* is of little Use.

2. By quickly raising some thick Smoke or smother in your Ship, as if it was accidentally set on Fire, just as the Enemy is about to Board you, which may terrify him from coming near you, thinking that you are on Fire; in which Blind you may perhaps find some Opportunity of *winding* off from him.

This last Stratagem may or may not take, according as it makes an Impression on the Enemy: However, if it should not, they can but be taken; and as a small Vessel and not capacitated to Fight, the Enemy can have no Advantage. But in a Ship prepared for a Close Fight, it may be attended with great Inconvenience: For, should the Enemy make a right Conjecture of your Design, he has a very favourable Opportunity to Board you under the Cover of your own Smoke.

In the Night it is not a difficult thing to loose an Enemy, especially in a *Tide-way*; which may be done by hauling up your Sails and dropping your Anchor at once: Hauling up your Sails will render you

less visible, and the *bringing up* at once will totally eclipse you; for the Enemy on a sudden *shooting a-head* loses Sight of the Chase, and will not know what Course to *steer*, to recover his Object: In managing this, the Master must take Care that in Casting his Ship, he do not Board his Enemy.

But if it be out of *Soundings*, or in very deep Water, then only *haul up* your *Courses*, lower your *Top-sails*, and bring too at once: Or if you are chased *before the Wind*, run away with the *Wind* upon the *Beam*: Or if chased with the *Wind* upon the *Beam*, either go *before* the *Wind* some time, or *bring too* the other way: Or if you go away *close hauled*, and the Enemy to *Windward*, bear round up at once, and *steer* away *Quartering*, or before the *Wind*.

In all these the Master must be cautious of getting into the *Wind's Eye* at first; because it being commonly clear to *Windward* you may see farthest, especially if there be a *Glare*.

IV. *How to defend a small Vessel a-Shore.*

IF the Enemy by Estimation be too powerful, it will perhaps be better Conduct for a small Vessel to run a-Shore, rather than trust too much to these Stratagems: For it is ten to one whether he will adventure boarding you, as he runs the Hazard of *Bilging* his Ship; and as for Cannonading you it signifies nothing, considering the small Number of his Guns, (*i.e.* such Privateers as cruize along Shore in quest of our small Craft) the uncertain shooting upon the Water, and consequently the Number of Shot he may fire, before he can do you any considerable Damage; but I presume a Privateer will not be at this Charge, for the sinking or beating to Pieces an Enemy that will not make good the Expences of his Powder and Ball, nor answer the Expectations of his Owners and Men. He will

will rather send his Boat to *get off* your Vessel, and under Fear that this may be his Conduct, it is necessary that the Master at the first Sight of the Enemy, or when he comes out to *Sea*, *haul* in his Guns, that is, get them *housed*, if he have but a few, that the Enemy may have no Suspicion of his making any Resistance, and to proceed carelessly to the *Entring place*. If there be any time to spare before the Boat comes on Board, let it be used in slinging the *Yards*, and in doing it, pass the Chain under the *Bunt* of the Sails of all the *Low-Yards*, for this prevents the Enemy's *loosing* it; and when the Sails are *loose* and the Robins cut, it will cover the Enemy, as the *Mizen* and *Main-sail* from those *before*, so the *Main-sail* and *Fore-sail* from those *abaft*.

For this Reason, leave no *Port-sails*, *Tarpaulins*, other *Sails* or Pieces of Canvas upon the *Decks*.

Some perhaps will think it better to cut the *Geers*, and let the *Yards* run down that the Enemy may not use them in getting off the Ship; but perhaps this will too much pester the *Decks* which ought to be clear.

And for using your Courses to get off the Ship, it is prevented by the *Top-chains* being past under the *Sail*; and if your *Braces* be *unreeved*, your *Top-sails* are also useless.

In the next Place, unship the *Windles*, and toss all the *Handspikes* down the *Scuttle* into the *Forecastle*; also unship the *Tiller*, and put it down below if you *steer* open.

Lash down your *Hatches*, Bolt your *Doors*, and clap the *Stoppers* upon the *Cables* in the *Tire* that they may not haul it out, to carry out an *Anchor* to get off your Ship.

Being thus prepared, and your Cannon loaded with a Box or Case of Musquet Shot, and a Cannon Ball, either round or double, (though the latter is the best;) As soon as the Boat comes within half Pistol Shot or
nearer

nearer, lift up the Port, and without running it out, Discharge at the Boat, then let down the Port and lash it in, after which fire out of the *Look-holes* in the *Quarter*, with your *Blunderbusses*.

If these Proceedings neither sink the Boat nor dishearten it's *Crew*, fire your Powder Tub; but the Master must here be careful to fix two *Guys* to the Tub, one to go *forward* into the *Forecastle*, and the other to come into the *Steerage* or *Great-Cabbin*, that it may not be fired in vain.

If notwithstanding this they enter, be watchful to shoot the first Man that comes over the Side, who commonly is a bold and daring Fellow; his Death will be the half vanquishing of the Boat; but if then they all *pour* in, ply briskly your *Hand-Granades* out of your *Scuttles*, and in the Interim be birding the most active Men. Thus, if they send eight or ten Men, you may destroy them all before they can force your *Close Quarters*; and if you can possibly stop the Boat from returning, you prevent the *Privateer's* making any more Attacks upon you; for not knowing your Force, and having all the Men he sent, cut *off*, he will not adventure to *Re-board* you after such a Reception.

However, having seized the *Enemy's Boat*, it would not be an Act of Cowardice in the Master to leave his Vessel, if he by the *Privateer's* Conduct mistrust his *Boarding* him, and that he is of much superior Strength; but if the Master should do this, I advise him to order his Trains, as directed in the next Atricle.

But if the Master be a Man of extraordinary Courage, and is resolved to defend his Trust, let what will happen, and obliges the *Enemy* with Loss to retreat, he justly and greatly deserves to be applauded and rewarded.

It may perhaps seem impossible to some, that three or four Men and as many Boys, can destroy twenty or thirty

thirty before they force their *Close Quarters* ; however it may and has been done, the Men being good *Marksmen*, and the Boys learned to load a Musquet dexterously. Now in a small Vessel every Man and Boy having two Musquets, a pair of Pistols and four Blunderbusses to spare, all ready charged when the Enemy enter, it is presumed that the Boys may charge as fast as the Men prime and fire ; for they do not fire at Random, but look out for the Enemy, take Aim, and then fire, in which time a Boy may put in a *Cartridge*, ram it home, and without putting up the Gunstick give it the Man, who may as he *cocks*, prime ; for which End he must have a *Priming-Bandalier* of small corned Powder hanging at his Wrist. Sometimes the Decks may be filled with the Enemy's Men, and it may require Speed to clear them ; then must the Boys be ordered to their Musquets and assist in the Execution.

V. *How to proceed after you have run a great Ship a-shore.*

THE running a Ship a shore, is certainly hazardous ; for should she set upon a *Rock*, uneven Ground, or upon a Sand, she may be *bilged* or *wracked*, and so the Conduct taken to save her may effectually lose her ; yet it is better to lose her thus, than to enrich the Enemy with the Loss of your Liberty : Though it is a thing the Master ought to consider, and not carelessly proceed in it, nor too superficially adhere to the Counsel of his inferior Officers, or Consent of the Men ; for if he run her a-shore at the Sight of an Enemy he is in a Condition to engage, he acts contrary to the Justice he owes his Country, the Interest of his Friends, and the Trust reposed in him, consequently he loses his Reputation, and with that his Employ. But if the Enemy be numerous, and not

not the least Hopes of defending the Ship by Fighting, or escaping by Flight, it is then Prudence to run her a-shore, and Bravery to defend her there ; which may be done by *mooring* her, if Time permits, *Broad-side-on*, getting all the Guns on one Side, and out of the *Stern* and *Bow-Ports*, and then act as Circumstances require.

But if you foresee a strong and numerous Attack by King's Ships, the best way is to take to your Boats ; but first you may make great Fires in the *Forecastle*, *Steerage* and *Round house*, upon Half-hogheads filled with Ballast, into these Fires put old Shoes, Cloaths, wet Oakum, and whatever will make a smoke ; then cover the Gratings where the Smoke usually goes up, letting it come out at the *Ports* and *Look-holes* in the *Quarter* : This may intimidate the Enemy from coming to plunder your Ship, or setting her on Fire in good Earnest ; especially if your *Powder-Chest* and *Granades* upon your *Quarters* be all primed, and Matches laid that they may fire at different times.

Or to prevent the Enemy's getting her off, you may sink her, or else lay *Trains* with good *Firelocks* at them, charged and cocked ; to their Trickers tie Pieces of *Marline*, which may be fastened to the *Scuttles* or Doors of the *Close-quarters*, that when the Enemy opens them, he may pull down the Trickers and blow up the Ship : But it must be observed, that some Weight be tied to the Piece, for some Musquets will bear their own Weight by the Tricker, when they are cocked and not go down : Several Pieces thus fixed, will effectually do the Enemy's Business, if they dare to Board you.

Capt. *Park* gives no Reasons for leaving of Ships when attacked by Men of War, yet encourages their being defended against the Privateers ; “ Because, says he, in *Seet. 7. Page 141*, I would not have some that may read this Book, know them, lest they
“ make

“ make a false Construction of them, and think they
“ are conclusive in all Circumstances, when some-
“ times Men of War are no more to be dreaded
“ than Privateers ; and as for Men of Understanding,
“ they will easily comprehend my Meaning.”

VI. *No Danger from an Enemy in a Sea-Gale.*

BUT when the Sea is *grown* and a fresh Gale, there is no Need of running your *Ship a-shore*, nor surrendering to an Enemy though never so superior : For if the Enemy pretend to Cannonade you, he may fire all the Shot in his Ship and not hit you, for when the *Sea runs high*, the most experienced Gunner is at a Loss, the Motion of the Ship being so uncertain ; and it may be laid down as certain, that no Man is so mad as to Board a Ship in a *Sea-Gale* ; it has also been made evident from their Conduct, that the Privateer Captains are more cautious than to venture their Egg-shell Sides against our *English Oak* ; and perhaps an Instance cannot be produced, and the Privateer not a Sufferer.

VII. *It is of ill Consequence to carry a Preft-sail if it blow.*

THERE are some Men in the World, that will run a greater Danger than *Bilging* their Ships against Rocks, or than fighting an Enemy they are capacitated to Encounter ; and that is by *carrying* too much *Sail* to hazard their Oversetting ; which is a Piece of Conduct not easily accounted for : Daily Experience teaches us that Man is not invincible, but none can resist the Sea when under its Surface ; if they therefore are resolved to dye rather than be Prisoners of War, let it be by revenging their Misfortunes upon their Enemies, and who knows but the Consequence thereof

thereof may be their Liberty : Besides carrying a *Prest-Sail* endangers the Masts and Yards, and if any of them come *by the Board*, the Enemy can lye upon your *Bow*, *Counter* or *thwart* your *Hawse*, and rake you *Fore* and *Aft* at his Pleasure. So that meeting an Enemy 'tis most rational to *go away* with an *easy Sail*, and make a *running Fight*, until Night may favour an *Escape*.

VIII. *Make the Enemy enter his Men over your Quarters.*

BUT if after all Essays the Enemy come up with, and is resolved to *Board* you, which is usual upon the *Weather-Bow*, *Side* or *Quarter* : If he attempt to be upon your *Bow* bear up *before* the Wind, (which answers in a light Ship) bring your Enemy *a-Stern*, and constrain him to enter his Men over your *Quarter* ; which if he refuse *bring too* the other way, and give him your other *Broadside* : If he wear his Ship to make a second Attempt serve him so again, unless you have an Advantage of laying him thwart the *Hawse*, (which rarely offers to the *Leewardmost-Ship* ;) then if his Men enter, they are exposed (in their Approach) upon their own *Forecastle*, to the Fire out of the *Look-holes* in the *Quarter* and *Fore-Chains* ; and as they enter, they are in no less Danger from the Fire through the *Bulk-heads* of the *Steerage*, *Forecastle* and *Round-house* : Likewise the Cannon in the *Closet-quarters* will do the Enemy a considerable deal of Damage, while he continues in this Position.

But notwithstanding there is a great Advantage in lying *thwart* the Enemy's *Hawse*, yet the performing it is attended with a Difficulty that ought to be considered before attempted, and then nicely performed, that instead of being *thwart* the Enemy's, he is not *thwart* your *Hawse* : But this must be left to the Discretion of the Commander.

IX. *Dis.*

IX. *Discharge, but get not in the Cannon open; both must be done in your Close-quarters, and on the contrary Side to the Enemy.*

BUT if the Enemy fails better than the Ship he attacks, as is evident most *Privateers* out-go the generality of our Merchant-men, then will they Board him maugre all Opposition, in what Place they please, except *thwart* the *Hawse*; which is not to be done but by Accident, or want of Conduct in the Ship so boarded.

But before he is on Board, the Commander must order all his Guns in the *Waste* and upon his *Quarter-deck* to be discharged without letting them run in; for if they should be loaded when the Enemy enters, and they should traverse any of them *Fore* and *Aft*, they would soon level the *Bulk-heads* with your own Cannon; and if they are run in they are soon loaded; whereas if they are out and the *Tackle-falls moused*, or a running and standing Part seized together, their Men will be the more exposed before they can accomplish any such Design; and lest under the Covert of your Smoke or any other favourable Accident, they should get in a Gun, the designed Advantage may prove their Ruin, by leaving in every Gun when you retire to your *Close-quarters*, a Piece of lighted Match.

And those on the Side from the Enemy when engaged, in the *Close-quarters*, must not only be discharged, but got in, that the Enemy do not toss in *Hand-Granades* or *Stink-pots*, to destroy or suffocate the Men in those *Quarters*; and that they should be discharged is necessary, because otherwise an *Hand-Granade*, *Fire-pot*, or some such thing may discharge it in your *Quarters*, and do more Damage to your Ship than the Enemy; or by carrying away a *Port* make a Vacancy, where the industrious Enemy may toss in Showers of *Hand-Granades*; besides in discharging your

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Cannon

Cannon, they run in of themselves, whereas at such a Time the Hands cannot be spared to get them in.

X. *How to act when a Ship comes up your Wake, and lays you aboard upon the Quarter.*

THE Enemy in his Approach to Board you, comes either up your *Wake*, upon your *Quarter* upon your *Broad-side*, or lastly upon your *Bow*.

If the Enemy come up your *Wake*, ply him briskly with your *Chase-Guns* loaded with *round* and *Cross-bar*; and as soon as he is within *Pistol-shot*, give him your Four *Chase-Guns* loaded with a *Double-headed-shot* and a Bag of *Casse-shot*; the former may spoil his *Masts* and *Rigging*, and the latter destroy his Men: Next let your *Guns* upon the *Quarter* be ready loaded with *double* and *Casse-shot*, that as the Enemy range up your *Quarter* with his Men ready to enter, they may be discharged among them; let likewise your *Powder-Tubs* be ready, and just as the Enemy is going to *shave aboard*, set fire to the *Fuze*, hoist it up to the *Yard-Arm*, and then let it run *amain* among his Men upon the *Decks*: If he still persist in his Resolution and board you, let all your *Ports* be *lashed in*, lest the Enemy wedge them, which is of ill Consequence, as has been before observed: Keep firing your *Blunderbusses* out of the *Look-holes* in the *Quarter* among his Men, as they stand thick and ready to enter; as soon as he is aboard, spring your *Powder Chests* upon the *Quarter*, for then his Men will, mounting your *Quarter*, be numerous. Let your Men in the *Round-house* be ready with their *Small-Arms* to give the Enemy a *Volly* as soon they come upon your *Quarter-Deck*, and those in the *Forecastle* must keep a watchful Eye upon the *Poop*, that they do no Mischief there; likewise those must pick off the Enemy as they mount the *Main* or *Mizen Shrouds*,

If

If the Enemy come in Numbers upon the *Quarter-Deck*, discharge one of your Cannon out of the *Round-house*, with *Case-shot* at them; if that will not clear the *Deck* let fly the other: And if a Breach is feared before they are Re-loaded, toss out of your *Ports* some *Hand-Granades*; if these do not drive away the Enemy before the Guns are Re-loaded, then spring a *Powder-Chest*, as the last Remedy; for it is Prudence in a Commander to let them stand as long as possible, because they do not only strike a Terror into the Enemy but are at all times ready; and so long as they are standing, the Enemy will conclude you are in no great Extremity.

From all Places have an Eye to your Rigging, and be sure to aim at the leading Men. Observe if the Enemy be so far *ast*, as that the *Chase-Guns* may be brought to bear; and if *that* from the Enemy will bear, spare two Hands to ply it, who must be sure with round Shot to aim at the *Water-line*, and if they be good *Marksmen*, it is Ten to One but they will spoil his Voyage.

If all this while the Master be exemplary brave, and the Men fire with Discretion, they will soon make a Ship of considerable Force to leave so hot a Place as this must consequently be.

XI. *How to act when the Enemy comes upon your Broad-side, and board you there.*

IF the Enemy comes upon your *Quarter* or upon your *Broadside*, your Conduct in both Cases is much the same, and as soon as he is near enough, give him your *Broadsides* as fast as you can load and fire; but when he is within Pistol Shot and his Men preparing to enter *fore and ast*, give him your *Broadside* with *Partridge* and *Cross-Bar*; then at each Yard-Arm swing off a *Powder-Tub*; and in the Interim let the rest of the

Hands get the Guns next the *Bulk-heads* to those *Ports* ; and if there be any to spare, let them ply the *Small-Arms* out of the *Look-Holes* upon the Quarter, and because the Enemy are not yet separated, and a Blunderbuss carries most Balls, let them be the only Arms used 'till he is *on Board*. Having sprung your *Powder-Chests* upon the *Sides*, turn all Hands to the *Bulk-Heads*, in Readiness to receive the first Attack which will be the briskest ; for being Side and Side, his Men will enter upon the *Forecastle*, Main deck and Quarter-deck ; to clear the first and last the Guns in the *Round-house* are of excellent Use when loaded with *Partridge* ; but they are to be managed with Discretion, and one ought not to be discharged 'till the other is almost loaded ; when they are discharged you must only lift up the *Ports*, and give Fire without running out the Gun, for that requires too much Time ; besides, while it is getting out the Enemy may fire at your *Ports*, and by some Random Shot kill or wound the Men at the Tackles. These Pieces being fired Point-blank, expose none of your Men in any of the other Quarters, as those in the *Steerage* and *Forecastle* ; for when any of the latter are discharged, should an opposite Port be open, the Men near it are evidently exposed ; therefore to prevent the ill Consequence of this, it is absolutely necessary to have Signs to give each other, that they neither fire needlessly, nor expose themselves to their own Balls ; and because a Noise cannot be heard at such a Time for the Guns, nor a Signal seen for the Smoke, they may observe to fire their Cannon out of the *Forecastle* first, then out of the *Steerage*, and so alternately as Occasion requires ; in firing these Guns you may only lift up the *Ports*, as was directed above for those in the *Round-house* : Care must be taken of the *Rigging*, that the Enemy do not too much damnify that, nor cut your Sails loose.

Springing the *Powder-Chest* must be left to the Discretion of the Officers ; only as was before said, they are to be the last Remedy.

XII. *How to act if an Enemy be thwart your Hawse.*

THE *laying a Ship thwart the Hawse* to enter Men into her, is not approved of by Commanders of Privateers ; and (without Doubt) they are sensible that to lye in this Position, without any Inclination towards either Bow, is the most difficult Place of Access ; for the Men must ascend the *Shrouds*, and one by one pass down the *Bowsprit*, all which Time they will be exposed to the Birders in the *Round-house* and *Forepeak* ; but it is generally acknowledged to be a prodigious Advantage for Men of War, whose Business is to Cannonade each other.

It seems impossible for a Ship to lay his Enemy thwart the *Hawse*, if there be a *Gale*, the *Sails* and *Rudder* serviceable, and the Master a Man of good Conduct, unless by Accident, or in a *Calm* with his Oars : To render this somewhat apparent, suppose a Ship going *before the Wind*, and a Privateer coming *with the Wind* upon his *Beam*, designing to thwart his *Hawse*, if he lies by *a-Head*, it is but standing out a *Stern* of him ; or should the Enemy pretend to run there at once, he hazards his *Masts* ; or should the Enemy run along *Side* of him, just *shoot a-Head*, and then put his *Helm hard over*, some will say, that then he will be thwart her *Hawse*, becaute the Merchant-Ship will not obey her *Helm* soon enough : But this (though the most probable way) depends upon so nice a Point, in timing the Enemy's *bearing away*, that it is Ten to One whether he accomplishes his Design, and be exactly thwart his *Hawse*, so as to bring his Guns *fore and aft* to bear ; for if the Merchant-man do not strike him exactly in the *Midship*, or run his

*Bow*sprit between the *Privateer's* *Main-sbrouds*, he will swing upon his *Bow*.

The same may be proved when going *upon a Wind*, or *Large*, but it is needless to those that believe it, and nothing but an *Experiment* can satisfy those that do not : But if such a Misfortune should be accomplished by a Ship of any considerable Force, all you can do in such a Posture is to fire those Guns *Forward* that may be *traversed* to bear, and if the Enemy attempt to enter, fire not in *Vollies* nor *Quick*, but let them approach till they have almost filled your *Decks*, and they will forbear to batter your Ship with their Cannon, lest they kill their own Men ; though now and then knock down a leading Man : When they are numerous, treat them somewhat roughly, but do not give them a Repulse ; but as soon as they begin to fly forbear firing, and let more of their Consorts enter ; spend the Time thus dilatory, and in the Interim be backing and filling, that you may swing along his Side ; but if that cannot be and the other Bait take, and you have sufficiently weakened the Enemy, make a brisk Sally at once, drive them *off* your Decks and enter their own Ship with them *Pell-mell* : And this says, Mr. *Park*, in my Judgment, is better Conduct than to kill his Men as fast as they enter, which may be done ; but then they will turn to Battering, the ill Consequence of which I need not mention.

XIII. *How to act if the Enemy be upon the Bow.*

IF the Enemy attempt to be *thwart* your *Hawse* or upon your *Bow*, when going *with the Wind* upon the *Beam*, put your *Helm* *hard a Weather*, *shiver* your *After-sails*, and having fired your *Broadside*, prepare to receive him upon your Decks. In this Posture you have the greatest Advantage that can offer, especially if he *lye* so that your Cannon *fore* and *ast* will bear ;
they

they may *ply* those forward on with *Cross-bar* and *Case-shot*, and those *Aft* with single *Round-shot*, aiming at or just below the *Water-line*; as for his Men they must come over your *Forecastle*, and so lye open to the Fire of your *Small Arms* and *Cannon* in the Round-house, which latter (if well managed) must make terrible Work among his Men, being fired with *Case-shot*: No less are they exposed to the *Small-Arms* in the *Steerage*. But if the Enemy force your *Forecastle*, then may the Men in those Quarters retire, having nailed the *Cannon*; or if they have Time and Courage enough, fill them half full of *Powder*, and the other half with *Round-shot*, then point them for the *Bow* the Enemy is upon, fixing *Fuzees* to fire them; all the *Granades* must be set on Fire, that the Enemy may not use them to your Destruction: It cannot be actually determined what may be the Effects of this Conduct, but it seems to be almost certain that the *Cannon* will be split, the *Deck* over the *Forecastle* ript up; the Shot will go through your *Bows* into the Enemy's, and carry Splinters to the Destruction of all that stand in the Way. Firing the *Hand-Granades* before you retire, is to prevent the Enemy's tossing them after you, they ought therefore to have *Fuzees* of a shorter Duration than those upon the *Cannon*; and it may prove fatal to the Enemy if you leave three or four *Granades* whose *Spiggots* are filled with whole *Powder*, with a little beaten at the Top.

The Men that leave the *Forecastle* must stay to prevent the Enemy's coming *Aft*, which may be easily done with *Half-pikes*, *Javalins*, and *Hand-Granades* under Covert of the *Bulk-head*, mentioned in *Article 18. page 162.*

But if the Enemy, after the Splitting of the *Cannon* and breaking of the *Shells*, lodge in the *Forecastle*, let your two *Cannons* in the *Steerage* incessantly play upon it's *Bulkhead*, with double, round and *Case-shot*,

till

'till it's level with the *Deck*, that the Enemy may have no Covert there : As for the Damage the Ship will receive by such Conduct and the splitting the Cannon, is inconsiderable ; for Fights are like Storms, in both which a Part is never brought into Competition with the Whole ; and it is much easier and more reputable, especially after so brisk an Effort, to Re-build the *Fore-castle*, than to build a new Ship.

If they shelter under the *Bow* of the *Long-Boat*, the Men that have *before* retired from the *Fore-castle* must drive them from thence, with their *Musquets*, through the *Look-Holes* in the *Comings*.

XIV. *How to make a Sally.*

HAVING (by a vigorous Defence) repulsed the Enemy from your *Bulk-heads* and cutting up your Decks, it may be necessary to make a *Sally* to compleat your Victory ; but by the Way, the young *Master* must use great Caution before he *Sally out*, lest he be drawn into some Stratagem to his Ruin ; therefore for a Ship of but few Hands, it is not a Mark of Cowardice to keep the *Cloze-quarters* so long as the Enemy is on *Board* ; and if his Men retire out of your Ship, fire into him through your *Look-Holes* and Ports till he calls for *Quarter* : And if it should even come to that you must proceed warily (unless you out Number him in Men) and send but a few of your Hands into his Ship, while the other are ready with all their *Small-Arms* and Cannon charged ; and if they submit patiently, disarm and put them down below, where there is no *Powder* or *Weapons* ; but plunder not, lest your Men quarrel about Trifles, or be too intent in searching for Money, and thereby give the Enemy an Opportunity to destroy you ; and if you take the Prize, (when you come into an Harbour) let every thing be equally shared among the Men, the Master only reserving to himself
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the Affections of his Men by his Generosity ; which with the Honour of the Victory, to a brave Mind is equivalent to all the rest.

But to return ; in making a *Sally* as abovesaid, Caution must be used, if the Enemy be not *put off* ; so there must if he be, lest some of the Enemy's Men be hanging about your *Quarters* or in your *Chains* ; wherefore if you have Galleries look out there, and *pick them off*, till by Estimation their Number is inferior to yours : Then let the Commander by some Signal inform his Men in all the *Close-quarters*, that they may be prepared ; which cannot be better done than by taking the *Ship's-Bell* into the Steerage before they engage, for the *Cabbin-Bell* will not give Sound enough : Likewise before the Battle begins the Officers in each *Quarter* ought to have Instructions, at least Verbal, (though it would be better in Writing) that they may know how to govern themselves when the Signal is made.

It is presumed that the *Sally* will be most advantageous, if made out of the *Round-house*, because having cleared the *Poop* you will have no Enemy at your Back : wherefore let all but Two or more, according to your Number, step up into the *Round-house*, bringing with them all or most of the *Musquets* and *Pistols* there, leaving only the *Blunderbusses*. Let all the *Small-Arms* in the *Quarters* be charged, and the *Cannon* that flank the *Decks* out of the *Bulk-heads*, traversing those in the *Round-house*, pointing towards the *Mizen-mast* to gaul the Enemy in Case of a Retreat : All things being thus prepared, let a *Powder-Chest* be sprung upon the *Poop* and four *Hand-Granades* tost out of the *Ports*, filled with Flower and Fuzees of a long Duration ; then let the Door be opened, and in this Confusion make your *Sally* at once, half advancing *forward*, and the other facing about to clear the *Poop* ; when that is done, let them have an Eye to the *Chains* :

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At the *Round-house Door* let two Men be left to stand by the *Port-cullis*, each having a Brace of Pistols to secure a Retreat ; let those in the *Forecastle* never shoot right *Aft*, after the *Sally* is made, unless parallel with the Main Deck : The rest must be left to Judgment.

XV. *Merchant-men have the Advantage of Cannonading Privateers.*

THE gallant and exemplary defensive Fights made by some of our Merchant-men, have made the *Privateers* so cautious, that it is not every Ship they will adventure to *Board* ; and perhaps this Unwillingness is not only in the Commanders but in the Men too ; who have been slaughtered in such Shoals, that the Impression it has made upon their Minds, drowns the very Hopes of their Plunder. Some to prevent these Mischiefs, pretend to *Cannonade* our Merchant-men ; a Practice that in the Sequel may prove as pernicious to them as the former, if they meet with gallant Defendants ; and this is not such a Paradox as it may appear at first Sight, if first be considered, the Strength of each Ship ; secondly, the Proportion of their Cannon ; and lastly, the Number of Men in each Ship.

First, It is sufficiently known that our *Merchant-Ships* are built for Burthen, and accordingly have their Strength proportioned to the Use they are designed : On the contrary, *Privateers* are built for Sailing, which is the Property of a weak Ship, and consequently they are such, otherwise they would not so well answer the Expectations of the Adventurers. Besides, the former are designed for a longer Duration than the latter, and for that Reason are built of good *English Oak*, the other being only designed for Cruizing a Summer or two, are built of Fir or thin Plank, that will Splinter worse than Deal.

Secondly,

Secondly, Our Men are sensible that their Cannon are a prodigious Strain to our Ships of War, which are built of good Oak : Whereas should *Privateers* carry a Weight of Guns proportionable to our Ships, their weak Sides would fall to Pieces the first Storm they happen to be in at Sea : This is evident, and for this very Reason, though they put in an equal Number of Guns proportionable to the Hulls of our Frigates, they are of a less Nature.

Lastly, As for their Men they are numerous, but that does not greatly avail ; for in Cannonading, they want no more than will manage their Cannon and Sails, and the rest stand only to stop a Shot, or by their Wounds to strike a Terror into each other, especially idle Spectators.

It is impossible to limit Commanders what Ships to Fight, and to whom Surrender ; what has been above-said, is only to assist them in forming a Comparison, on which Side the Advantage lies. Mr. *Park* says, *Sett.* 17. *Page* 161. that a *Collier* of Eight Guns and Twelve or Fourteen Hands, may lye a Battery against a Privateer of Twenty Guns : This *adds he*, may seem a prodigious Advantage, that each *Broad-side* the Enemy sends Ten Shot to the *Collier's* Four ; but in Reality the Odds are not so great, if we consider the *Collier's* Sides, will better endure twice Ten Shot, than the other Four : And as for their Numbers, it turns to their Disadvantage, for Two or Three Men will manage One of their Guns, and the rest that stand idle are as much exposed, and consequently more concerned at the Slaughter of their Consorts, than Men fully employed ; also they being *quartered* far distant one from another, five Hundred Shot may go through the Ship's Sides, and not hurt one of them ; whereas it is almost impossible a Shot should go through their Egg-Shell Sides but it must kill some, besides the terrible Work the *Splinters* must make : From all which

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it is evident, that there is not so great Disparity as some imagine on the contrary Side.

XVI. *It is best Conduct for Merchant-men to fight before the Wind.*

IF all these Advantages be by the *Sailors* rightly considered, and they act according to their usual Courage, the Enemy must purchase his Prize with the Blood of his Men ; and perhaps after he has been extravagant in that, may go without her ; especially if the *Merchant* Commander use the Courage of his Men with good Conduct, and suffer not the Enemy to possess the Advantages he expects by his good Sailing ; which is only to be prevented by *bearing* away when the Engagement begins, and so fight *before* the Wind, for the following Reasons, *viz.*

1. It is acknowledged by all Seamen that in an Engagement the Smoke is very offensive to the *Leewardmost* Ship, not only by blinding the Men, and hiding the Enemy a considerable Time from their Sight, making them act with Fear, and in an implicit Confusion shoot at Random, but it also stifles and suffocates them ; and it cannot be otherwise with a *Merchantman* that fights upon a *Wind*, because if he out-fails the Enemy there would be no Battle ; and it is absurd to think an Enemy will fight to *Leeward*, when he can get to *Windward* : Because,

2. The Ship to *Leeward* fighting with her *Weather Guns*, has her *Water-line* more or less, (according as it blows) above the Surface of the Water, and a Shot between those two, (*i. e.* the Surface of the Water and the *Water-line*, or according to the Sea-Phrase, *between Wind and Water*) may prove of worse Consequence than Ten, nay I may say, an Hundred upon the
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the upper *Work*: For should she *Tack* or *bear up*, without perceiving it, she may be *Sunk* before it is known where the *Water* came in; whereas *before* the *Wind* the *Danger* is avoided.

3. Again, if upon a *Bow-line* your *Head-sails* are disabled your *Ship* will fly too: And if the *Enemy* be within *Musquet-shot* you must lie at his *Mercy*, for a Reason that is not convenient now to mention: However, the *Danger* may be avoided, by fighting *before* the *Wind*, because a *Ship* will *steer* so almost with any *Sail*, or at least *Provision* may be made to keep her so, whatever *Damage* to her *Sails* or *Rigging* may happen.

4. Lastly, If you fight *before* the *Wind*, and the *Enemy* keep in your *Wake* or upon your *Quarter*, you may *bring too* either *Way*, and give him your *Broad-side*, then *bear up* round, and give him your other *Broad-side*; and by that *Time* your *Ship* is about again, your other *Broad-side* may be ready, &c.

But if your *Ship* fails almost equal with the *Enemy's*, this *Conduct* must be altered; because it hinders the *Ship's Way*, and consequently shortens the *Chase*: Wherefore to prevent this, get all the *Guns* you can out of the *Stern-ports*, and keep continually firing, if near, *Cross-bar* among his *Rigging*; but if at a *Distance*, fire *Round-shot*, this will give your *Ship way*, and it may also carry away the *Enemy's Top-mast*, or spoil a *Yard*; and a *Collier's Stern* may be made as hot as her *Broad-side*.

XVII. How to treat a disabled Enemy.

IF an *Enemy* out-sail a *Merchant-man*, and (in fighting before the *Wind*,) lies fairly along her *Broad-side*, trusting to his *Strength* and *Fortune*, without endeavouring to take any of those *Advantages* his sailing offers; it is unwary *Conduct* in the *Master* to pretend

to take Advantage of him ; because, first, his Ship sailing worse than the Enemy, is not capacitated for such Performances, and thereby may bring the Enemy's *Broad-side right a-head*, or Stern, and so be *raked fore and aft*, receiving more Damage from one *Broad-side* in such a Position, than from ten fairly *along-side* : And secondly, such Conduct may put the Enemy upon acting otherwise, and thereby give him an Opportunity of taking Advantages he did not intend.

Notwithstanding this may seem strange, yet it is necessary to give such a Caution, though it is not to be followed when the Enemy's *Rudder, Yards, or Masts* are damnified, so that he hath lost his *Steerage*, and hath no Command of his Ship ; for then the Master is highly to blame, if he do not make Use of such a fortunate Opportunity to lye *thwart* his *Hawse*, or *under* his *Counter*, rake him *fore and aft* and *sink* him : yet he must be careful that he do not *Board* the Enemy ; that is, that he do not accidentally fall on *Board* of him, nor that the Enemy do the same ; for it is ill Conduct to give such an Opportunity to a despairing Enemy : The best Conduct will be to give him two or three *Broad-sides* in at his *Bow* and *Counter*, and having sufficiently disabled, leave him, unless you have a Letter of Marque, or be near a Harbour.

XVIII. *How to act upon a Weather and Lee-shore.*

THough certainly it is the best for a *Merchant ship* to Fight *before* the *Wind*, yet it is in some Places impracticable or dangerous ; impracticable upon a *Lee-shore*, dangerous upon a *Weather-shore*, especially in our Channel *before* the *Wind*, when it blows at N. W. by N. or N. N. W.

Therefore being upon a *Weather-shore*, it is the Commander's best Conduct to *cling close aboard* the *Land*, that the Enemy may not have the *Weather-gage* :

gage: If he comes up your *Lee-side* and Cannonade you, ply your Guns on that Side, and keep jogging on, 'till you are got under the Covert of some Cannon into an Harbour, or Night comes on: And considering the uncertain shooting upon the Water, a Man will have hard Fortune if he be not favoured upon our *Coast* with such an Opportunity, or meet with one of our Cruizers: And if he keeps upon your *Quarter*, it is only *bearing away* a Point or two each *Broad-side*, and then *loofing*, while you are *charging*: if he keeps upon your Bow, spring your *Loof* when you *fire*; but when he is there, be careful that he don't get *thwart* your *Hawse*; if you fear it, either *Tack*, or if he be of no great Force give him your *Stem* before his *Ches-tree*.

As it is dangerous to leave a *Weather-shore*, so it is impracticable to *Steer* before the Wind upon a *Lee-shore*; so that if an Enemy have such an Opportunity, and lye Cannonading your *Weather-side*, your Conduct will be to shiver all your *Sails* when he *fires*, that your Ship may Right, so that as little as possible of the *Water-line* be above the Water; if he falls *a-Stern* between each Firing, the *Chase* must keep Time with him in Loading and Firing; and if he keeps upon your *Quarter*, loof up in the Wind each Time you *fire*, that he may receive your full *Broad-side*: When after all, you cannot defend your Ship, the Enemy being too powerful, then *run her a-shore*, and defend her there, or *burn* or *sink* her, any thing, so the Privateers have her not: For if they get no *Purchase*, their Men have no *Pay*, their *Owners* no Profit, and consequently that Trade must fall of it self.

XIX. *Masters ought to stand by one another.*

IN the preceding Articles we have treated of Fighting in single Ships; we now come to speak
U 2 of

of Fleets: But immediately before we come to the Subject itself, it will be necessary to observe, that Masters have the strongest Obligations incumbent upon them, to stand by one another; such as their mutual Preservation, the Motives of Honour, the Duty we owe to our Country, and to one another as Country-men; of which Duty and Obligation even a *Pagan* Philosopher thus gives his Opinion; “ If it be my Duty, “ says he, to love my Country, I must also be kind “ to my Country-men; if a Veneration be due to the “ Whole, so is a Piety also to the Parts, and it is “ the common Interest to preserve them: We are “ all Members of one Body, and it is as natural to “ help one another, as for the Hands to help the Feet, “ or the Eyes the Hands: Without the Love and “ Care of the Parts, the Whole can never be preserved; and we must spare one another, because “ we are Born for Society, which cannot be maintained without a Regard to Particulars”.

XX. *How to bring the Fleet into Order.*

IT is absolutely necessary that every Ship should be so disposed to act in a proper Station, that the Fleet may not be in Confusion; and this may best be done by dividing the Fleet into Squadrons, each consisting of Seven or Five Sail: Let one be appointed to command each Squadron, wearing a Merchant-Pendant, or some distinguishing Flag: Over all let one be elected to make Signals for *Weighing, Tacking, Trying, Lying by, Forming the Line, or Bringing up*. What Signals are to be made, must be left to the Discretion of the Person that has the Honour to command in Chief.

When they *Form the Line*, each Commander must be in the Center of his Squadron, and the Commander in Chief with his Squadron in the Center of the *Line*.

Next

Next after, it is appointed who shall follow each other; the Masters must subscribe an Instrument that they will keep their Stations, and proceed as in Council they conclude, upon Sight of the Signal made by the Commander in Chief, and not stand out of the *Line*, unless by Majority it be concluded that each Ship must shift for herself, the Enemy being too powerful; and then all Compacts ought to be void, and every Ship provide for their own Safety.

XXI. *They being in a Line, must not endeavour for the Weather-Gage.*

HAVING formed the *Line*, they must lye by to receive the Enemy, without endeavouring to get the *Weather-gage*, lest it create Suspicion, and so cause a Separation, which may prove the Ruin of but too many: Neither may it (perhaps, if nicely examined) be found so Advantageous for a *Fleet* of *Merchant-ships* to have the *Weather-gage* of two or three Privateers, as a *Fleet* of Men of War to have it in Respect to a *Fleet* of the same: The latter when going to Engage, strive to be to *Windward* for the following Reasons, viz.

1. To prevent the Enemy's using their Fire-ships, and to have the Opportunity of burning their own.
2. To clear the Smoke which blinds and suffocates the Men.
3. To prevent the ill Consequences of being Shot between Wind and Water.
4. The better to retreat from or pursue after the Enemy.

What Relation these Reasons have to a Fleet of *Merchant-men*, we will examine : And for the first, neither Privateers nor Merchant-men have Fire-ships, so that the first Reason is invalid.

As for the second, the Smoke of the Privateer, if to *Windward*, can go over but one Ship at a time, and so offensive to none of the rest ; and the Merchant-men's Smoke drives to *Leeward*, so that he is always in Sight of the Wings of the *Line* ; whereas if he be to *Leeward* their Smoke intervening, eclipses him from their Sight, and consequently they must fire at Random.

The third carries the greatest Weight ; but seeing it cannot be avoided, it must be born with Resolution : However, it is the Ship opposite to the Privateer that alone will be exposed, therefore Care must be taken to shift her.

The fourth signifies no great Matter ; for Merchant-Ships pursue not, and let them be either to *Windward* or *Leeward*, if they are over-powered, some must suffer being out sailed by the Enemy.

However, we will not determine which is most Advantageous to such a Fleet ; but this may be affirmed, that they cannot get to *Windward* without apparent Danger, not to repeat the Confusion it will create, which is evident, by considering that not one Merchant-man in the whole Fleet sails so well as a Privateer : Now if the Fleet work to *Windward* out of a *Line*, the best Sailor will be a-Head, and that considerably too, before he *weather* the Enemy, if he do at all, who then will have an Opportunity of Boarding and perhaps carrying him, before his Consorts can come up to his Assistance ; and it is absurd to think of *weathering* him by *working* in a *Line* ; so that duly comparing one thing with another, the Fleet had better (at the Sight of an Enemy) keep their *Line*, and prepare to receive

receive him, or them, without attempting the *Weather Gage*.

XXII. *It is best sailing in a Triple Line.*

IF the Fleet be numerous the Line will spread too far ; and if the Enemy do not attack them but only wait for a stragling Ship, the Fleet to *lye by*, loses Time ; both which may prove of ill Consequence.

To prevent these, let the *Fleet* sail in a double, triple, or quadruple Line, or more, according to the Discretion of the Commanders ; and between these let the small Vessels sail. Suppose for Example, the *Fleet* to consist of Fifteen *Sail* of Ships fit for the Line ; and these divided into three Squadrons, each denominated by A,A,A,A,A, the Center of the *Fleet* ; B,B,B,B,B, and C,C,C,C,C, the two Wings, *Fig. 1.* If the Commanders will sail in three *Lines*, let the first be made up of B,B, and C,C,C ; the second of B,B,B, and C,C ; and the third of A,A,A,A,A : The Ships sailing in this Order may sooner form the single *Line* than when they sail promiscuously or in any other Order than three Lines, which may easily be demonstrated, from the Property of Triangles ; and how each Ship may steer into the *Line*, a Squadron drawn out and the *Lines* closed without Confusion, we will here consider.

The Fleet sailing in three *Lines* before the Wind, each Line composed as directed above, and the Signal being made for the forming a single Line : Let B,B, in the first Line *stand away* with the Wind a little *abaft* her *Starboard-Beam*, Suppose upon BB, BB ; and C,C,C, with the Wind a little *abaft* the *Larboard-Beam* upon CC,CC,CC ; and B,B,B, in the second Line must *stand down* *Quartering* upon BB,BB,BB ; and C,C, with the Wind upon the *Larboard-quarter* upon CC,CC ; and the third Line,
A,A,A,A,A,

A, A, A, A, A, must continue their Course before the Wind; and these having shaped their Courses, must *make* and *shorten* Sail, till they all fall into a Line represented by B, B, B, B, B; A, A, A, A, A; C, C, C, C, C. To draw out a Squadron without Confusion must be thus, *viz.* suppose the Signal is made for the Squadron of B's to stand out of the Line, and then two Lines formed: Let the three B's in the second Line *stand away Quartering*, and the two B's in the first Line with the Wind upon the *Starboard-Beam*, or a Point *before it*; and they will naturally fall into a Line, and may stand to *Leeward* or *Windward* as Necessity requires; while this is doing, C, C in the second Line, must steer down with the Wind upon their *Starboard-quarter* into the Place of B, B in the first Line.

XXIII. *How to act when the Center of the Fleet is attacked.*

THE Fleet being drawn up into a Line of Battle, if a single Privateer attacks the Ship in the Center of the Fleet, they must advance, or more properly *loof* in the Wings, and form an Half-Moon, that every Ship may bring her Guns to bear, and every Man have his Share in the Glory of the Action.

If the Ship that happens to lye a *Broad-side* of the Enemy be *disabled* in her *Mast*, or by some unlucky Shot in her *Hull spring a Leak*, he must not precipitately bear out of the Line, lest he cause Suspicion in his Consorts, and give too great Encouragement to the Enemy; he ought to make a *Signal* before agreed on, that the next Ship a *Stern* may make Sail and run between the disabled Ship and the Enemy, who must stand away to the Wing of the Fleet, and there repair her Damages, as well as the Time will permit.

And would Men, every three or four Broad-sides, relieve the Ship opposite to, and engaged with the
Enemy,

Enemy, (which they may do, though by his Conduct he endeavour the contrary,) it would not only refresh the Men, but put Courage into them, to see each Ship in his Turn take Share in the Hazard ; and a contrary Effect it would have upon the Enemy, who will not only be fatigued by continually plying their Cannon, but out of Heart to see no End to their Work.

But should he *bear* through the Line, and attack the Ship in the Center to Leeward ; then must the Wings *bear away*, first into their Line, and then form the Half-Moon with it's Points to *Leeward*.

XXIV. *How to act when the Van or Rear is attacked.*

BUT if the Enemy attack the Van or Rear, let the second to the Commander in Chief advance, and form a Semi-Half-Moon, in the mean time let the Commander in Chief stand *away* with the other Part of the Fleet on that Side the Ships are not engaged, and post himself next to the Ships attacked, and his Second next to him, and so one after another till the Half-Moon is compleat, and there let them lye and fire with Emulation : But by the Way, they must observe to fire between the Ships engaged, at the Enemy, as he *stands away* for the *Wing*.

XXV. *How to act when the Ship in the middle of the Wing is attacked.*

WHEN the Enemy attacks a Ship in the middle of one of the Wings, let the Van *loof* and form Part of an Half-Moon, and as many Ships from the Rear *stand away* to the Van as will make each Point of the *Half-Moon* equal ; while these Ships are *standing away*, the Ship that now is in the Rear must *loof*, and form the other Point of the Half-Moon ;
which

which must be done with all the Expedition the Wind will permit ; for it is the Ships in the Wings compleating the Half-Moon that *rake* the Enemy *fore* and *aft*, and consequently do him most Damage.

XXVI. *Better be boarded than break the Line.*

AS for the Enemy's breaking your Line, it cannot be done without he attempt to Board one, and that Ship retreat out of the Line ; which will not only bring your Ships into Confusion, but create Suspicion among the Commanders, and cavilling among the Sailors ; but it will give Heart to the Enemy who always renews his Courage when charging his Retreating Adversary ; therefore to prevent the ill Consequence of these threatening Mischiefs, the Master of the Ship attacked, had better prepare to receive him, and let him accomplish his Design ; during this his Consorts must get ready to assist him, and act according to the Conduct of the Enemy. Thus,

XXVII. *How the other must act if the Enemy lay one thwart the Hawse.*

IF the Enemy lay a Ship in the Fleet *along side*, the next Ship in the Line *a-head* must lay them both thwart the *Hawse*, in such a Position that her *Quarter* may lye against the Privateer's Stem, and command his Decks, which will be more advantageous than if the *Forecastle* was there : 1. Because there is more Cannon *abast* the Mast than *before*. 2. Because it being higher they may clear his Decks with the *Small Arms* out of the *Steerage* and *Round-house* through the *Look-holes* better than out of the *Forecastle*. 3. Because being two Tire, *viz* those in the *Steerage* being about the Heighth of the Enemy's Decks, will, if fired with double and round Shot, drive in his *Bows*, and rake him

him *fore* and *ast*, while those in the *Round-house* that over-look his Decks, are firing with Case Shot among his Men: If every Man discharge his Duty the Enemy will industriously strive to disintangle himself, which may be prevented by getting hold of some of his Ropes belonging to his *Bow-sprit*, and fastning it to your *Mizen-mast* or elsewhere.

If more Help is required, two more Ships may board those already on Board the Enemy, while the rest of the Fleet with their Boats supply them with Men, that they may act offensive; for to board those already entangled, with more Ships is not convenient, because should a Fire by Accident happen, too many Ships will be exposed; besides, those will be found sufficient: But that the two last should board their Consorts, is absolutely necessary, because the Enemy being offensive will enter those Ships first on Board, and the Men in the Boats coming on Board them, will not only be exposed to the Enemy, but also to the Shot of the Men in the *Close-quarters*. Now if two Ships, as just now directed, Board them, and the Men go on Board those in their Boats, they are in no great Danger; for it is not to be supposed the Enemy can spare Hands to enter four Ships, or that his Men will be so hardy as to attempt it: Then may they help to clear those Ships Decks entered by the Enemy, and assist and join their Friends when they Sally, and so without exposing themselves to one another's Shot, repulse and follow the Enemy into his own Ship.

XXVIII. *How the other must act, if the Enemy Board one upon the Bow.*

BUT if the Enemy should Board one of your Fleet upon the *Weather-Bow*, as admit the Privateer B (Fig. 2.) Board the Ship A, then let the next Ship in

in the Line *a-head* of that *Boarded*, lay his *Quarter* upon the Privateer's *Bow*, so far *aft* as her *Stern* may be even with the Privateer's *Ches-tree* as C; next let the Ship *a-head* of him, as D, Board that which *Boarded* the Enemy C, with her *Bow* upon the other's *Quarter*, that her *Guns* in the *Steerage* and *Round-house*, may bear upon the Privateer. Lastly, let the Ship *a-Stern* of, A, that *Boarded* by the Privateer, lay C, the Ship which first *Boarded* the Privateer thwart the *Hawse*, so as he, E, may fire out of his *Steerage* between A and C, and *rake* the Enemy, B, *fore* and *aft*: The rest of the Fleet must assist these with Men and Small Arms.

XXIX. *How the other must act if the Enemy Board one upon the Quarter.*

TIS usual for Privateers to *Board* Ships, so that their Heads may reach their Enemy's *Entring Place*, as the Privateer C has *Boarded* B, *Fig. 3*. In such a Case let the next Ship *a-Stern*, F, lay the Ship *Boarded*, B, upon the *Quarter*, that her *Guns a-aft* may bear upon the Enemy's *Quarter*; but perhaps some will object against this Conduct, as having no Advantage but what Fortune gives: This is true, but as it hath been before observed, a Merchant-man's Quarters are stronger than a Privateer's: But the Enemy may be beat from these *Guns*, if the next Ship *a-head* of, B, that *Boarded* by the Enemy lay her, B, thwart the *Hawse*, so that the *Steerage* and *Round-house* *Guns* may bear upon the Enemy's *Decks*: If these be not-sufficient, let the next Ship *a-head* lay, D, the Ship thwart her *Hawse* which the Enemy first *Boarded*, upon the *Quarter*, E, so as her *Guns* in the *Round-house* and *Steerage* may bear upon the Enemy. For the rest proceed as directed in the two preceeding Articles,

XXX. *To intercept the Enemy when he puts off from the Ship Boarded.*

IN the mean time, the remaining Part of the Fleet must not be idle; their best Conduct will be to close the Line to Windward of the Ships engaged, posting two in such Manner, that if the Privateer put off, they may stand between him and the entangled Ships, that he take no Advantage of them, either by firing *Small-Shot* among their Men, clearing the Rigging, or doing them any other Mischief, which such Conduct may prevent.

XXXI. *To Anchor Fleets.*

SHOULD we talk of *Riding* in a *Line*, it would look too formal, though in some Measure, 'twould in time bring our *Fleets* to a good Custom, and prevent oftentimes that which happens by *Riding* Straggling: Under the Convoy of one *Man of War*, says Mr. Park, I have known a *Fleet* spread six or more Leagues, which might have *rid* a good Birth distant one from another in a Mile or two.

This Irregularity not only exposes the Owners Ships to apparent Danger, but the Captain of the *Man of War* to unnecessary Trouble and Vexation; and sometimes proves a Detriment to his Reputation, as when a Ship considerably *a-Head* or *Stern* happens to be taken, if he gives not Chase, his Courage and Conduct is called in Question; and if he gives Chase he exposes his Fleet, and his Commission also: Hence it is to be wished that Masters were obliged not to *work* to *Windward* of the Convoy, but with Permission by Signal, or in Case of unfortunate Necessity, or within Sight of their Port, (then it is not to be doubted but they would anchor under his Command) Nor, when
failing

Sailing *before* the *Wind*, to *run a-head* of the Convoy, or (if but one *Man of War*, it being proper for that to keep in the *Rear* or to *Windward* of the *Fleet*) of the Ship appointed by the Captain to Sail *a-head* of the *Fleet*, carrying a distinguishing Flag, or Merchants Pendant : But then on the other Hand the Captain of the *Man of War* ought to be exceeding precious of his Time, and not keep the Fleet longer at Sea than Necessity requires, by losing the Opportunity of the Wind.

We shall not speak much of bringing a *Fleet* to an Anchor without a *Man of War* ; for as Necessity will oblige the small Vessels to keep close to the great Ships, so the Compact will engage the great Ships to keep close together.

Therefore shall only observe, that in *Bringing up*, which is commonly upon a *Leeward Tide*, the great Ships and those of any Force that *ride Weathermost* must bring up such a Birth, without the *Leeward-Ships*, that if the Enemy *standing* out of the Sea, cannot fetch the former, he may not the latter : And the Advantage of this will be found, if the Enemy *fetch* and *board* the *Weathermost* Ship, she will be the sooner assisted by her Consorts ; for it must be granted that the Enemy can, if he will, cut your Cable ; or you may, if it be to Advantage cut it your self, and then as you drive, your Consort may cut and come to your Assistance : And if he Attack the *Leewardmost* Ship, he must come within the *Weathermost*, receive all their Fire, and if he *Board* her, they can bear down to her Assistance.

In *riding* under the Convoy of a single *Man of War*, it is somewhat difficult to protect every Ship from the Attempts of a daring Enemy ; yet in some Measure the Danger may be removed by posting *her* in the most convenient Place to intercept the Enemy ; which may be somewhat after the following Man-

ner; supposing the *Fleet* to bring up *along Shore*, upon a *Leeward Tide*.

The Coast we will imagine to lye N. W. by N. and S. E. by S. the Tide set S. S. E. the Wind at South, and the Fleet bound to the *Southward*; under these Circumstances the *Fleet* will be obliged to *Anchor*, if the Tide runs hot.

After this Fleet is brought up, they fear no Enemy from the *Westward*, being covered by the Land; nor out of the *North East Quarter*, by Reason of the Wind and Tide; so that the apparent Danger is from the *South East Quarter*, which ought to be guarded by the *Man of War's* Situation: The Merchant-men bearing from her between two Points as they shall estimate a Ship's Way in the Strength of the Tide upon each Tack, that the Enemy coming out of the Sea, and going to *Leeward* of the Man of War, may not fetch one Ship in the Fleet; and if he should take a small Vessel to *Windward* of the Fleet, he may not (in standing off with his Prize) *weather* the *Man of War*: (Was there no Tide the *Fleet* could not bring up so, as the Enemy going to *Leeward* of the *Man of War*, can fetch none standing in; and should he take the Weathermost Ship, he cannot carry her off to *Windward* of the Man of War.) Then imagine the Tide runs so strong, as with her *Larboard* Tacks on Board, a Ship can make but a W. N. W. and with her Starboard Tacks on Board, but an E. N. E. Way; then no Ship must *ride* to the *Northward* of W. N. W. nor to the *Southward* of W. S. W.

But if a Ship can lye West, or somewhat nearer, we must not suppose much; because if the *Fleet* can make better than a *West Way* in, and an *East Way* off, they have no Occasion to Anchor; however, if the Enemy should lye to *Windward* of the E. and W. suppose W. by S. then must the *Leeward* Ships not bring

bring up to the Northward of the West from the *Man of War*, but rather W. by S.

I hope, in the Words of Mr. *Park*, that the Intention of this will not be otherwise constructed than a pure Design to hint unto the Masters of small Vessels (such as are not so well acquainted) how they may Anchor under the Protection of a *Man of War*; this being a thing they ought to understand as perfectly as the Commander of the Convoy; for if they do not or cannot herein perform their Duty, the Captain of the Convoy may have Part of his *Fleet* spoiled, and his Honour lessened undeservedly.

How S H I P S are to be fortified in an Harbour.

IF Ships in an Harbour or River, are apprehensive of being attacked, or the like, it is then very necessary that they make Preparations to defend themselves, and it is thought that the best and safest Methods to perform this, is by erecting Batteries upon the Shore, and laying a Boom *thwart* the River. As to military Fortification, I do not herein intend to treat about it, (referring those Gentlemen that are desirous to be therewith acquainted, unto the Directions of a proper Master, or such Authors who have particularly writ upon the Subject) but confine my self to the Naval Part thereof, as it more immediately comes under the Directions of the Master or Commander; and this I shall exhibit according to the Judgment and Opinion of the ingenious Capt. *Park*.

I. *The Advantages and Disadvantages of Mooring in a Tideway considered.*

BEfore the *Boom* is laid, it will be necessary to appoint the Place where to *moor* the *Ships*, so that they may be secured against the *Enemy's Fireships*, and yet annoy their *Ships of War*: These two Points are to be well considered, and the Situation of the Land at the same Time: in order therefore to assist in this necessary Consideration, we will examine into the Matter as far as we are able. And,

First, We will see what Advantage the *Enemy* has of a Ship *moored* in the *Stream*.

Secondly, The Advantage such a Ship has of the *Enemy*.

Thirdly, The Advantage the *Enemy* has of a Ship *moored* out of the *Stream*.

Lastly, The Advantage a Ship out of the *Stream* has over the *Enemy*.

Here we shall not speak of the Advantages and Disadvantages in Respect of the *Enemy*, but those of the Tide, &c.

First, The Advantages the *Enemy* has of a Ship *moored* in the *Stream*.

1. A Ship *moored* in the *Stream* cannot so easily have her *Broad-side* brought to gaul the *Enemy* in his Approach, who always comes with the *Stream*: This is not so much in Respect to their *Ships of War*; for if the *Tide* runs too *hot* for one to lie *thwart*, it does certainly for the other, if their *Ground-Tackling* be alike in Goodness.

2. It

2. It is their *Fire-ships* that are to be feared in this Case, who will Board you notwithstanding all Opposition, if you have no *Boom*, or if it be forced : For in this Position you can only fire your *Chase-Guns*.

3. And if you *beave thwart*, he will be the more certain of grappling with you ; for though he comes upon you exposed to your *Broad-side*, yet that will never stop the Progress of the *Fire-ship*, unless you sink her ; for if the Commission-Officers that bring her on have no great Courage and forsake her, yet the *Tide* will supply their Deficiency.

4. In *riding* in the *Stream*, the *Cables* are exposed to the Enemy, and if a Chance Shot happens to strike them, the Ship will *swing* upon the *Tide*, and so the Enemy have the Opportunity of *raking* you *fore* and *ast* : And if the Enemy has any Conduct, he may lay his *Anchors* so, that his *Cables* shall be in no Danger from your Shot.

5. Another Advantage the Enemy has, *viz.* he may with his *Ships of War* board you, and then your *Forts* and *Platforms a-shore* are useless.

6. As you are *moored thwart* the *Stream*, the Enemy may drop a small *Anchor* out a *Stern*, *Veer thwart* your *Hawse*, and so constrain you to alter your Position, or *rake* you *fore* and *ast*.

7. In *Riding thwart* the *Stream*, the *Cables* bear a more than ordinary *Strain*, and are apt to break, or an *Anchor* to start, and the Ship *swing* upon the *Tide* ; then it is ten to one that the *other Anchors* Start also, and she *swing* to *Leeward*.

But it is to be observed that the Enemy have only all these Advantages while the *Tide* sets in ; for when
the

the contrary, they are on the Defendants Side ; and it must be confessed if there be such a place where the Tide runs continually out, (if the Wind do not blow always in) the best way is to *moor* in the *Stream*.

Secondly, The Advantages such a Ship has of the Enemy.

1. When the Ship is *moored thwart* the *Tide*, she will *rake* the Enemy in his Approach *fore* and *ast* ; and so may do him a considerable deal of Damage before he is *thwart* the *Stream* to batter.

2. In riding thus in the *Stream* (according to the common Situation of Rivers) the Enemy cannot batter you under *Covert*.

These are the Advantages and Disadvantages in *mooring* in a *Tideway* ; we shall now consider the contrary. And,

Thirdly, The Advantage the Enemy hath of a Ship moored out of the *Stream*.

1. In approaching, the Enemy is in no Danger of being *raked fore* and *ast* ; though according as the Land lies, a Ship may be so *moored* out of the *Stream*, as to *rake* the Enemy in his Approach.

2. The Enemy's Men are not much exposed in *mooring* ; for it is but dropping his Anchor, and he may *Veer* along your Side ; or, if you lie *thwart* the River, across your *Hawse* : This as the River drenches along, may likewise be altered by *Riding* in the *Wake* of a *Point* ; for should the Enemy drop his Anchor before he be about the *Point*, he cannot *Veer* along Side, and if he let go his Anchor after he is about the *Point*, he may be *a-Stern* before he is brought up.

Lastly, The Advantage a Ship out of the *Stream*, hath over the Enemy.

A. I.

1. A Ship *moored* out of the Stream, is in no great Danger of Fireships *driving* aboard; and so far as my Memory extends, says Mr. Park, page 221. I remember not one Instance of the *French* Grapling a Ship in an Harbour (before they left the Fireship) while the Ship attacked was in a Condition to make Defence, and her Company *on Board*.

2. A Ship thus *moored* having her Cables shot, is in no Danger of *driving*, if, as it often happens in Engagements, it proves calm.

3. In being *moored* out of the Stream (unless the Wind unluckily favour) the Enemy cannot be *thwart* your *Hawse*, unless he *Tows* thither with his Boats, and then they and their Crews are exposed to your Cannon, which may prove fatal to the Enemy, unless they have a great Naval Force to Countenance the Attack, and assist the Ships engaged with their Boats; but a prudent Commander will never attempt it; for should the Boats be disabled, and their Crews disheartened, a Retreat may be impossible for want of their Assistance.

II. *The Advantages and Disadvantages considered in Respect to the Wind.*

NEXT to the Stream is to be considered the *Wind*, but that being variable is dangerous to be comply'd with; for having fortified the Place where the Ships are *moored*, it may prove of ill Consequence to forsake your Fortifications for the *Wind*; for though your Ship may be easily removed, yet your Works upon the Land cannot, without a Repetition of your Labour, and something added, by transporting your Cannon, and demolishing your old Lines; unless you have
Hands

Hands enough to entrench in all Places where Advantages offer in respect to the Wind.

And in respect to that, we will consider the Advantages and Disadvantages to *Windward* and *Leeward*.

Those to *Windward* are,

1. In this Position you are free from the Smoke, the ill Consequence of which was spoken of before.

2. If you shoot the Enemy's *moorings* he will drive *a-Shore* to *Leeward*, then must his Boats be exposed to your Cannon in carrying an Anchor to *Windward* to *heave off*, which if the Boats *lay to pass*, yet he will be *raked fore and aft* as he *heaves*; and if your Shot take place, they must do a considerable deal of Damage among his Men, standing thick at the Capston: But I rather incline to believe that the Ship so grounded would never come off.

3. Again, if you are *moored* to *Windward*, your Cables are covered by your Ship, and may be *seized* to *Clamps* and *Cleats* nailed to the Side from the Enemy, and so your Ship may be secured in her *Moorings* against Random Shot: And this ought to be provided for by Commanders, for preventing the only Disadvantage that attends Ships *moored* to *Windward*, which is,

That if their Cables be shot, they *drive* out upon the Enemy, or *swing* Head at Wind; if the former, they may be *boarded* by the Enemy's *Fire-ships*, or Ships of War, and then as before observed, your Forts can no ways be serviceable, but may be a Prejudice to you instead of the Enemy: If the latter, the Enemy *rakes* you *fore and aft*; but perhaps neither of these may happen, and the Ship may drive to *Leeward*; the Disadvantages of which Position we shall now mention. And,

1. If

1. If you are *moored* to *Leeward*, the Enemy's Fire-ships may be sent on Board, notwithstanding all Opposition, unless some Shoal or the like intervene.

2. If under this Position you shoot your Enemy's Cables, he not minding to cover them with his Hull, and he *drives* a Shore or upon you, covers his Boats with his *Hull*, while they carry an *Anchor* to *Windward* and heave off.

3. Your Anchors lying to *Windward*, should the Enemy shoot your *Moorings*, you will swing *Head* at *Wind*, and in that Position he will *rake* you *fore* and *ast*; and if you go to carry out an Anchor, to *heave* up your Broad-side against the Enemy, he will have too great an Advantage of your Boats. Some may imagine an Anchor need not be carried out, only a *Spring* *clap'd* upon the Cable; but perhaps you will be too near the Shore for that.

III. *The Advantage of the Land considered, in Mooring Ships.*

HAVING given some Hints for the Mooring of Ships in Respect of the *Wind* and *Tide*, we will now consider what Regard is to be had to the Land. And I do esteem, says Mr. *Park*, with Submission to better Judgments, the *Wake* of a *Point* or an Island the most proper Places in a River; which is preferable, cannot easily be determined, because of the various Situation of Places, and the Force of the Enemy. If you are like to be attacked by a considerable Number of Land Forces, an Island is the best Place to fortify; because Nature has surrounded the Place with a Ditch, so that if the Soldiers advance, it must be in their Boats, and the Enemy can promise themselves but little Success

Success in attempting to storm that Way : For Men coming out of a Boat cannot march Rank and File ; on the contrary, some tumble down by the Boat's *striking* the Shore, others by her *rocking* ; then at their Landing the Unskilfulness of the Soldiers adds to their Confusion, for four or five stepping upon the Boat's *Gunnel* brings her down upon the *Bilge*, and as they jump out, eager of the Battle, over goes the Boat upon the other *Bilge*, the Men tumbling down perhaps with their Firelocks in the Water, and before they can be up, the other are advanced some Paces ; besides, being wet in Landing, they cannot be so active as at other times : Now what can offer more Advantageous to the Entrenched Enemy, than Men in this Confusion within Shot of their Works, that may be all destroyed before they can be brought into Order.

But if no strong Attacks by Land are feared, a Point is best, because of laying the Boom : Now should that be forced, (which must be upon the Flood) before the Fire-ships can be on *Board* a Ship thus moored, she will be hurried by the Tide beyond ; and if the Place any way favour your Ships, it will be found impracticable to Board a Ship thus moored with such a Wind and Tide as the Enemy must have to force the *Boom*, unless he exposes his Boats in carrying out an Anchor to warp over, the ill Consequence of which has been mentioned before ; or some unaccountable Accident intervene.

It may be objected, that the Ships Broad-sides cannot be brought to bear upon the Enemy when coming to force the *Boom*, and that they may be battered over the Point.

In Answer to the first, it is no Matter whether the Broad-sides do or not, because if Time will permit, it is proper to get all their Guns a-Shore, except those of the smallest Nature, which may be put down upon the Lower Deck, and as it shall be laid, they will serve to flank the *Boom*.

As

In Answer to the second, the Enemy will have an uncomfortable lying, to batter the Ships over the Point, as our Fortifications shall be ordered upon the Shore. But this is to be understood of five or six Ships, not of a Fleet ; for then the *Wake* of a Point will not hold them.

As for Rivers they have no Points or Islands ; if such be, they must get if they can, under the *Wake* of a *Shoal*, and fortify there : Or if none, as well as their Judgment will direct ; for it is impossible to give Directions in all Cases.

IV. *How to set up a Boom.*

THE only Invention to keep an Enemy out of a River, is, by stretching a Cable *thwart* its Mouth, and to that last Yards, or Top-masts, &c. to swim or float it : Without this a Fort is but of little Service, and an Enemy may at his Pleasure pass it with the help of a good Tide and a leading Gale of Wind : As it therefore has been found that neither *Forts* or *Castles* can stop the Enterprizes of the Brave, they have invented these *Booms* ; though as they are made, they have been found but of little Service, and as often forced as attacked. This, very probably, may proceed from the little Care that is taken to hide the *Cable*, which if once cut, the whole *Boom* is useless. The best way therefore to prevent that, is to cut down a Number of *Batlings* or *Spars* (if there be a Wood near) about 20, 30, or 40 Feet long, more or less, and 5, 6, 7, 8, 9, 10 Inches Diameter : Having a sufficient Quantity of these at Hand, and two *Sheet Anchors* in two *Long-boats*, moor them in the Place you design your Boom shall begin : Then bend two Cables to these Anchors, and around them place your *Spars* or Poles, *Fraping* on each with Ratling Stuff (or better if 4 Inch Rope) till the Boom is 7, 8, 9, 10 or
Y more

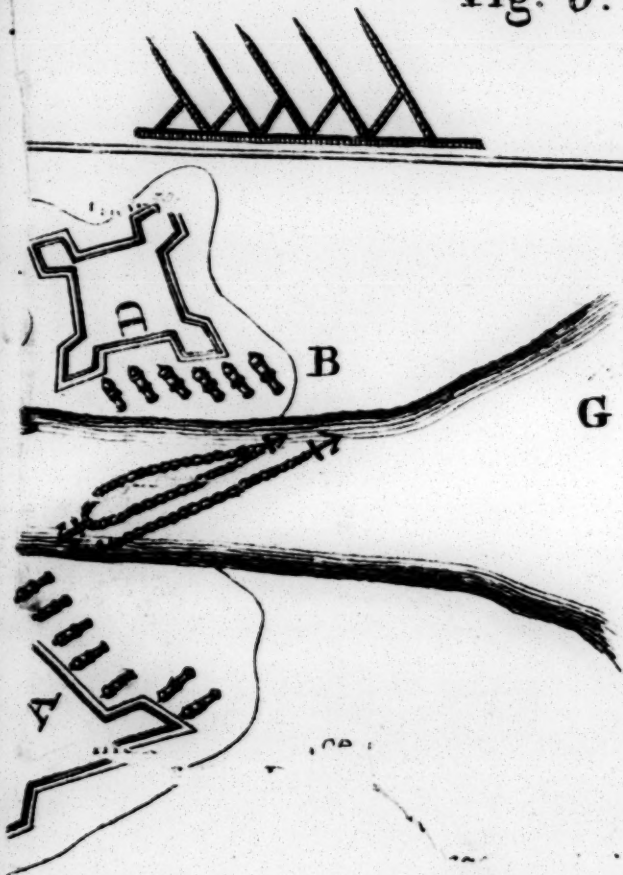
more (according to the Number of Men) Feet in Diameter, the Cables being in the midst ; then take some *Iron-Hoops* and riveting them together, *worm* the *Boom* driving through the *Hoop* into almost every *Spar* a Nail. After you have wrought a good Birth from the *Anchors* drop them, and continue your Work till you are near the Edge of the River, then over all *lash* your *Spare-yards* and *Top-masts* with your *Top-Chains*, as far as the *Channel* goes, the remaining Part being wrought as you began, drop two more *Anchors*.

To that Part of the *Cable* in the *Channel*, that makes the *Boom*, must *Cables* be fastened, and over the *Clinch* let the *Batlings* or *Spars* be wrought, near 10 Fathom of the *Cables* bent to *Anchors* laid down the *Stream*, that the Enemy may not cut those Cables : These will be serviceable when the Enemy comes Stemlings against it ; or if he force it in one Place the Whole will not be open. It need not be mentioned how this *Boom* may be floated to open the River ; for if the Place be never so frequented, few Ships can come in while the Enemy is before it ; and when he is not there, the *Boom* is not wanted : However, if it be found convenient and safe to open the Passage, you may *trip* the *Anchors* down the *Stream*, and upon one *Shore*, then let the Boats upon the *Ebb* swing down the *Stream*, that upon the Flood the *Boom* may be laid, if the Enemy appear in Sight ; which must be done the first of the *Tide*, for upon the *Ebb* there is no Danger, because if the Wind be right in, an Enemy will not adventure against the *Tide*, a Ship makes such *wild Steerage* ; and should she ground, she must lie there till *Flood*, which may prove fatal from the *Shore*, or Designs of the Enemy ; and against the *Wind* and *Tide* the Enemy cannot come in. If the *Boom* be carried up the *Flood*, and the Enemy at the Beginning of next *Flood* appear, the *Boom* cannot be relaid till the *Ebb*, and before that the Enemy may have accomplished his Design. And

the

the

Fig. 6.



And now the *Boom* is fixed, we must consider how it is to be laid, which may be in two Respects: First, thwart a River that hath no Windings nor Turnings: Secondly, from a Point to a Bight. Under both we will shew how to erect Fortifications to defend the *Boom*, and at the same time protect the Ships.

V. *How to lay the Boom and erect Fortifications in a straight River.*

LET the River be ABC, the Entrance G, and suppose the Wind blows chiefly from B to A. Now if the *Boom* be laid *thwart* this River, the Ships with a leading Wind, will run *Stemlings* against it, and so hazard its breaking, by striking it with a Force that comes direct: Whereas could the *Boom* be laid in such a Manner, that the Ship must take it upon her *Bow*, the Blow would be diverted by the Ships casting.

This is only to be done by stretching the *Boom* *thwart* the River sloping, as from B to A, the lowermost End which is next the Enemy being upon the Weather Side. It being laid thus, the Enemy cannot possibly run *Stemlings* against it; for the Ship must be near before the *Helm* be put down, to bring the Ship's *Head* to the *Boom*, and then it is ten to one whether she comes too so nicely to take the *Boom*. (Fig. 4.) Not to mention the Mistakes in a Confusion committed by the Man at the *Helm*, and he upon the *Cond*, nor the Smoke; for if all was quiet, I take it for granted, that the Ship would cast along Side the *Boom*. Then a *Battery* of good Cannon being erected at A, will *rake* him *fore* and *aft*; and another from D to B, to play upon his *Broad-side* with *Double-Round* and *Partridge*, must make a great Slaughter among his Men cutting at the *Boom*. But should he not swing along Side the *Boom* but lie *Stemling* against it, then will the *Battery* at D *rake* him *fore* and *aft*, while A plays upon his *Broad-side*.

What Form these Works must be on, is left to the Judgment of the *Designer*, who, (if he approves them) may follow those of the *Figure*.

The Ships must be *moored* in an *Half-moon*, with their *Broad-sides* *flanking* the *Boom*, as in the *Figure*. And several old Ships or of the worse Sort may be sunk, as soon as the Castle D makes a Signal that the *Boom* will be cut : for this Purpose they must have large *Scuttles* ready cut : But by the Way, it would be extraordinary Conduct to have a small *Boom* to divert the Enemy, that the Ships may be sunk in the *Channel* before he *boards* them.

As for the rest of the Ships they must be left to the Judgment of their Commanders, and if no other Remedy, they may get *a-shore* to *Windward* if they can, and there defend themselves from the Enemy's Boats and Fireships. If the Whole be seriously considered, the chief Strength will be found to consist in the *Boom* : If therefore a double, triple or four-fold *Boom* was laid, it would make the Place so much the stronger : And in stretching these, the Trouble of *Anchors* may be spared, by making your *Cables* fast to the first, and so let them float in a *Bight*, and by a small *Anchor ride* upon the *Ebb*, to keep clear of the other.

VI. *To fortify upon a Point.*

A Point, as was observed in *Article 3*, is the best to protect Ships from the Enemy ; and a *Boom* laid from a *Point* to the opposite *Bight* is the properest for obstructing the Enemy's *Fire ships* and *Ships of War* : And *Fortifications* can be best erected there to gall the Enemy, as may be evident by the following Example, without a Train of Arguments. *Fig. 5.*

Suppose the River ABQ is to be fortified : From the *Point D* to the opposite *Bight E* lay two *Booms* DC, DE, and it is ten Thousand to one if a Ship answers her

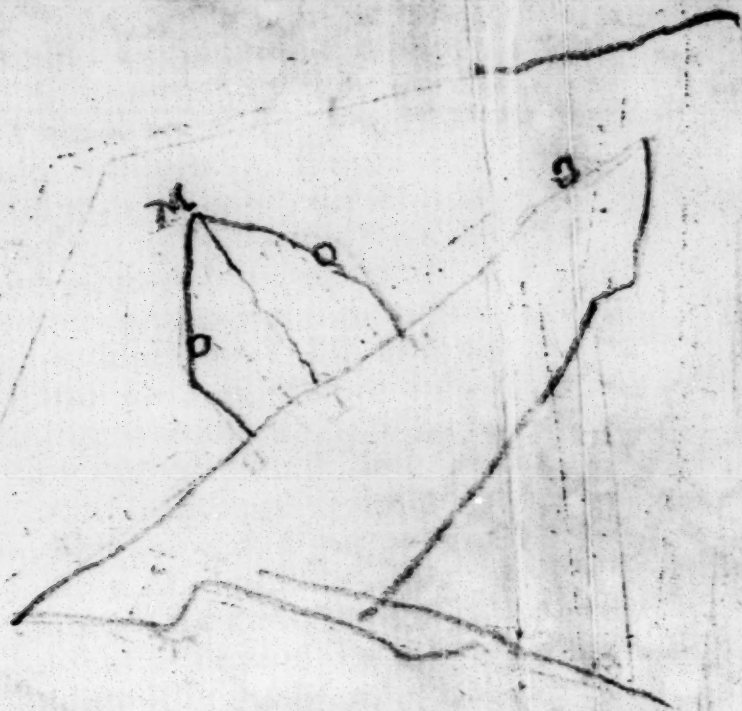
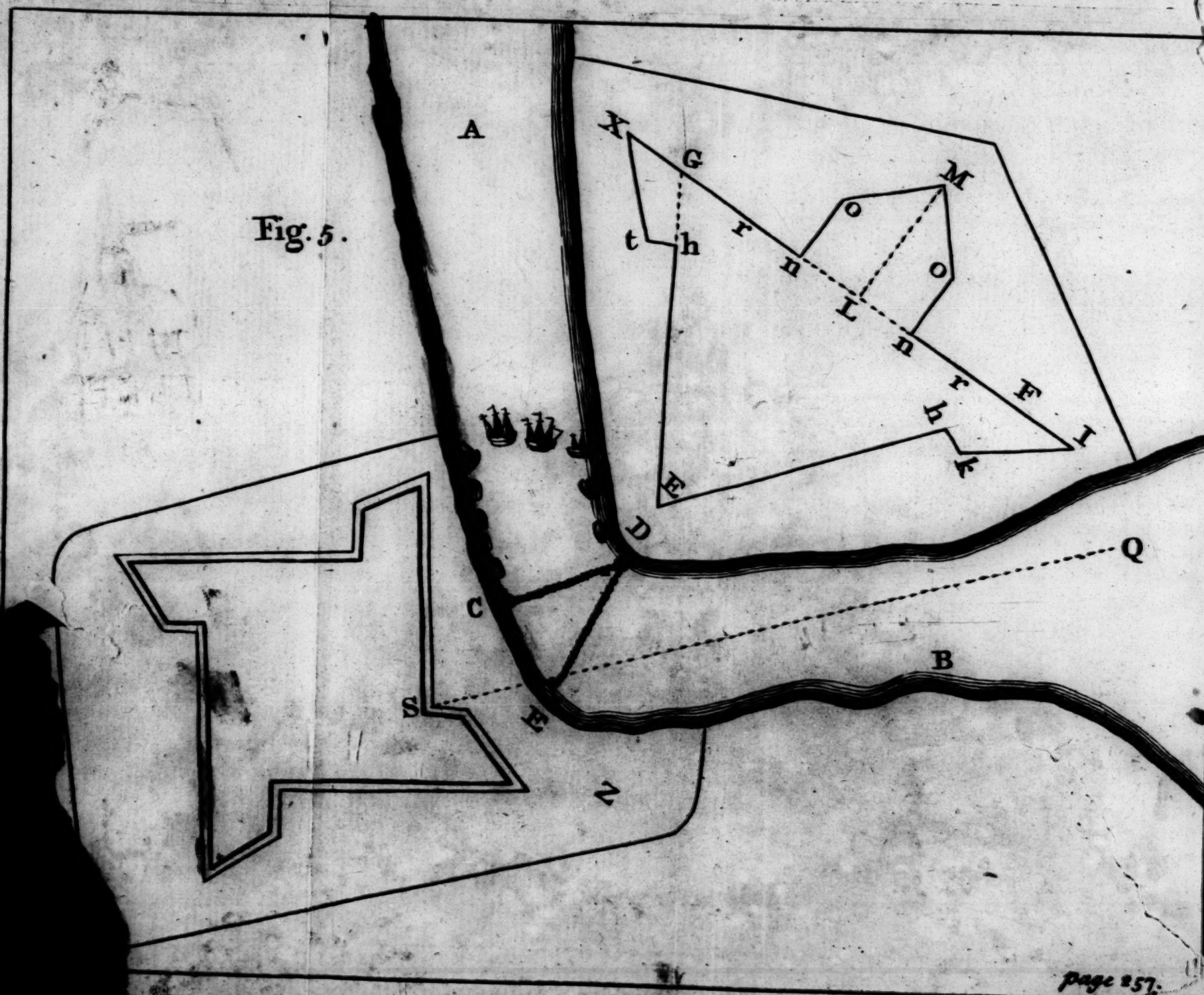


Fig. 5.



her *Helm* so timely in *Bearing* or *Loofing* about the Point as to take it *Stemlings*, and if she smite it with her *Bow* she casts.

Upon the Point D let a *Fort* be erected ; if the Point be *Acute* it may be a *Triangular-sconce* ; if *Right-angled* it may be a *Square* ; but if *Obtuse* it may be a *Pentagon* : Take an Example of the first.

About 4 Fathoms from the *Point*, as at E, draw two *Lines* EF, EG, parallel to the Bank of the *River*, and 400 or 500 Feet or more : Join FG, and divide EF and EG into five equal Parts at h, $\frac{1}{5}$ from F and G ; raise *Perpendiculars* kh, *l*, each 14 Feet for *Flanks* ; where may be planted *Faulconets* in each, to gall the *Enemy* if he attempts to storm the Place in *Boats* : Let FG be extended both ways within 8 Feet of the *Water's Edge*, to IX, and then draw the *Faces* Ik, Xt : Upon these and the *Curtains* (if that Name be proper) let your *Cannon* be planted as thick as possible.

For the Land Side I, X, it will be necessary to have a *Bastion* in the middle of the *Rampart*, and that will be far better than compleating these dis-proportioned *Semi-bastions* ; besides, it will be nearer the *Angular-Points* of the *Semi-bastions*, than the Whole if compleated will be to one another, and consequently the Shot more Serviceable : 'Tis thus made ; divide IX into two equal Parts in L, and raise the *Perpendicular* LM, divide LI, LX into four equal Parts, $\frac{1}{4}$ from L raise the *Perpendiculars* No equal to NL ; lastly, laying a *Ruler* over o and r $\frac{1}{2}$ from I or X, draw the *Faces* OM.

The *Point* being *Fortified*, draw in the middle of the *River* QS parallel to the Side of the *Fort* ; at S erect a *Square* or other *Sconce*, that may rake the *Enemy fore* and *ast*, if he lies to batter the *Works* upon the *Point* ; as also when he approaches the *Boom*.

Besides you may have a *Battery* of Guns at I, to gall the Enemy in his Approach; and another at R, round which next the Land must be cast up Lines.

As for the Ships, they may be *moored* in an *Half-moon*, to batter the Enemy when he attempts the *Boom*.

If the Commanders judge other Works necessary, they must erect them according to the Situation of the Place.

VII. *Fireships may be placed between the Booms.*

The Manner of managing them.

BETWEEN the first and second *Boom*, let some old Ships be placed and fixed up for *Fire-ships*. From each let two *Hawsers* be carried *a-shore*, one to each Side, and let two *Cramps* be fixed up, that as soon as the Enemy has passed the first *Boom*, these Ships may be set on fire, and *heaved* in their Way, and then nothing can hinder the Enemy's Destruction. The Boat may pull *a-shore* as soon as Fire is set under Cover of the Ship, without any apparent Danger; for such will be the Enemy's Consternation, that they will soon leave Firing. The *Hawsers* may be fastened to *Clamps* nailed below the *Water-line*, that they may not be burnt, nor the Enemy cut them. Having *boarded* the *Weathermost* Ship, you may *heave* your *Fire-ship* and she on board the *Leewardmost*. More Instructions are needless to our *Seamen*, who know how to manage this as dexterously as any Men in the World.

VIII. *Rafters, Stockadoes and Pallisadoes, how used.*

IF there be good Store of Timber at Hand, you may drive *Stockadoes*, (*i. e.* great Trees into the River,) else before your *Booms* ride *Rafters* of *Trees*, with
good

good *Anchors*, making your *Cables* fast, so as the Enemy cannot come at them to cut them: These will be of singular Use in putting the Enemy into Disorder, if Rubbish be laid upon them and Fires be made, when the Enemy appears in Sight; which will put him to some Consternation, and perhaps cause him to *chop* to an *Anchor*, and lose Time or his *Tide*; and thus you may do every *Flood*; but you must be mindful that the Smoke be not great if to *Windward* of your Works.

There is another Use you may put these Trees to, that is for *Pallijadoes*, which must be set in the middle of your *Ditch* if it be dry, or upon the Foot of the *Counter-scarp*; but upon the Water they will be of greater Use, if there be but two Landing Places, and those but small, or before your Fortifications; where you may set some, whose Tops shall be even with the Surface of the Water when the Tide is at the lowest; and some nearer in, a Foot and an half higher, and so till you come within a Foot of the Surface at High-water. These may be about five Feet high, and that they may stand firm, you may set them slooping towards the Enemy, and nail on Braces.
Fig. 6.

IX. To make Gabions before your Cannon.

IF your Works are to be erected by *Seamen*, they will scarcely be over curious in the Profile, and indeed it will require more Time and Hands than they have to spare; however, towards the Land they must at least make their *Ramparts* above Man's Height and Cannon Proof, which with their Ditch will be indifferent strong; the *Parapet* may be four Foot high. Next unto the Water, Nature has in most Places made a very good Ditch, and this may serve if Time will not permit to finish your Works; yet for the Security of your Men, between your Guns drive Stakes into the Ground,

Ground, and between them work green Boughs, as *Sailors* pass the Ball when they make Mats; those filled with Earth will serve as *Corbels* or *Gabions*. The Earth you fill these with may be dug from between them, or opposite to the Vacancy, so as the Corner of the Hole may be at the Corner of the *Gabion*, and then you will have a Line of *Ditch-work* and *Breast-work*. They may be seven Feet high, and Foot-Banks may be erected on the Land Side for the Men to fire over. If you have Time to finish your Works, this Provision must be made before your *Batteries* under your Works.

X. Maxims to be observed in an Harbour, when you begin to Fortify.

1. **I**F there be an Hill within Cannon Shot of your Works it must be secured by a small *Sconce*, erected upon its Top, where ought to be placed some Cannon of a small Nature.

2. If a Wood be within Cannon Shot of your Works it must be cut down, and the Timber employed about your Works.

3. The Commander must inform himself before he make his Works, whether the Enemy, by cutting any Bank, &c. can lay the Place under Water.

4. Let a Spring of fresh Water be secured by a *Sconce* and a Guard of resolute Fellows.

5. Let your Ships be *moored* so as they may *rake* the Enemy *fore* and *aft* when he batters your Works.

6. Let not your Ships be *moored* before your *Fortifications*.

7. Let

7. Let not your Ships be posted near any Town or Village, unless absolute Necessity require it to cover the Town, or the Thing be unavoidable ; lest the Shot and Bombs that miss you destroy the Town.

8. Let not one Ship touch another when *moored*, that the Enemy may be obliged to burn each Ship single.

9. Let the Ships be unrigged, and the *Shrouds stripped* from the *Mast-head*, that the Graplings of *Fire-ships* may have no hold.

10. Let all the *Buoys* be taken from the *Anchors* that ride the *Booms*, that the Enemy may not trip them.

11. Let all the Land-Marks be removed, that direct their *Steerage* into or up the *River*.

12. Unless the Cargo be *ashore*, let no Man's Chest nor Cloaths (from the Captain to the Swabber) be carried out of the Ship.

13. Let your Sails be carried *a-shore* for Tents and most of your Gunner's Stores ; that if the worst happen to your Ships, your Forts may have Store of Ammunition.

14. Let not your *Powder* be altogether in your Forts ; that if an Accident happen, the Whole may not be destroyed.

15. Let Out-Guards and Centinels be placed upon and near the Banks of the River ; and let some each Night in Nimble Boats armed, pass down the Stream to watch the Motion of the Enemy ; and in this the Commanders are to act the Part of careful Generals to prevent Surprise.

A S H I P's Tackling described.

See the Draught of the S H I P annexed.

- 1 E Nsign,
- 2 Mizzen vane,
- 3 Mizzen-top-sail,
- 4 Mizzen-top-sail-yard,
- 5 Cross-jack-yard,
- 6 Mizzen-yard,
- 7 Main-vane,
- 8 Main-pendant,
- 9 Main-top-gallant-sail,
- 10 Main-top-sail,
- 11 Main-sail,
- 12 Fore-vane,
- 13 Fore-top-gallant-sail,
- 14 Fore-top-sail,
- 15 Fore-sail,
- 16 Jack,
- 17 Sprit-sail-top-sail,
- 18 Sprit-sail,
- 19 Fore-top-gallant-stay,
- 20 Fore-top-gallant-bowlines,
- 21 Fore-top-mast-stay,
- 22 Fore-top-sail-bow-lines,
- 23 Crane-line,
- 24 Fore-stay,
- 25 Main-stay,
- 26 Main-top-mast-stay,
- 27 Main-top-gallant-stay,
- 28 Main-top-gallant-bow-lines
- 29 Fore-top-gallant-braces,
- 30 Fore-top-sail-braces,
- 31 Main-top-sail-bow-lines,
- 32 Gallies,
- 33 Poop-Lanthorn,
- 34 Main-top-sail-brace,
- a Mizzen-mast,
- b Main-mast,
- c Fore-mast,
- d Bow-sprit,
- e Mizzen-top-sail-lifts,
- f Mizzen-crow-loot,

- g Hoisting line for a Flag or Pendant,
- b Mizzen-sheet,
- a Mizzen-top-mast,
- b Mizzen-top-sail-brace,
- c Mizzen-top-sail-clew-line,
- d Mizzen-top-sail-sheet.

Main-Mast.

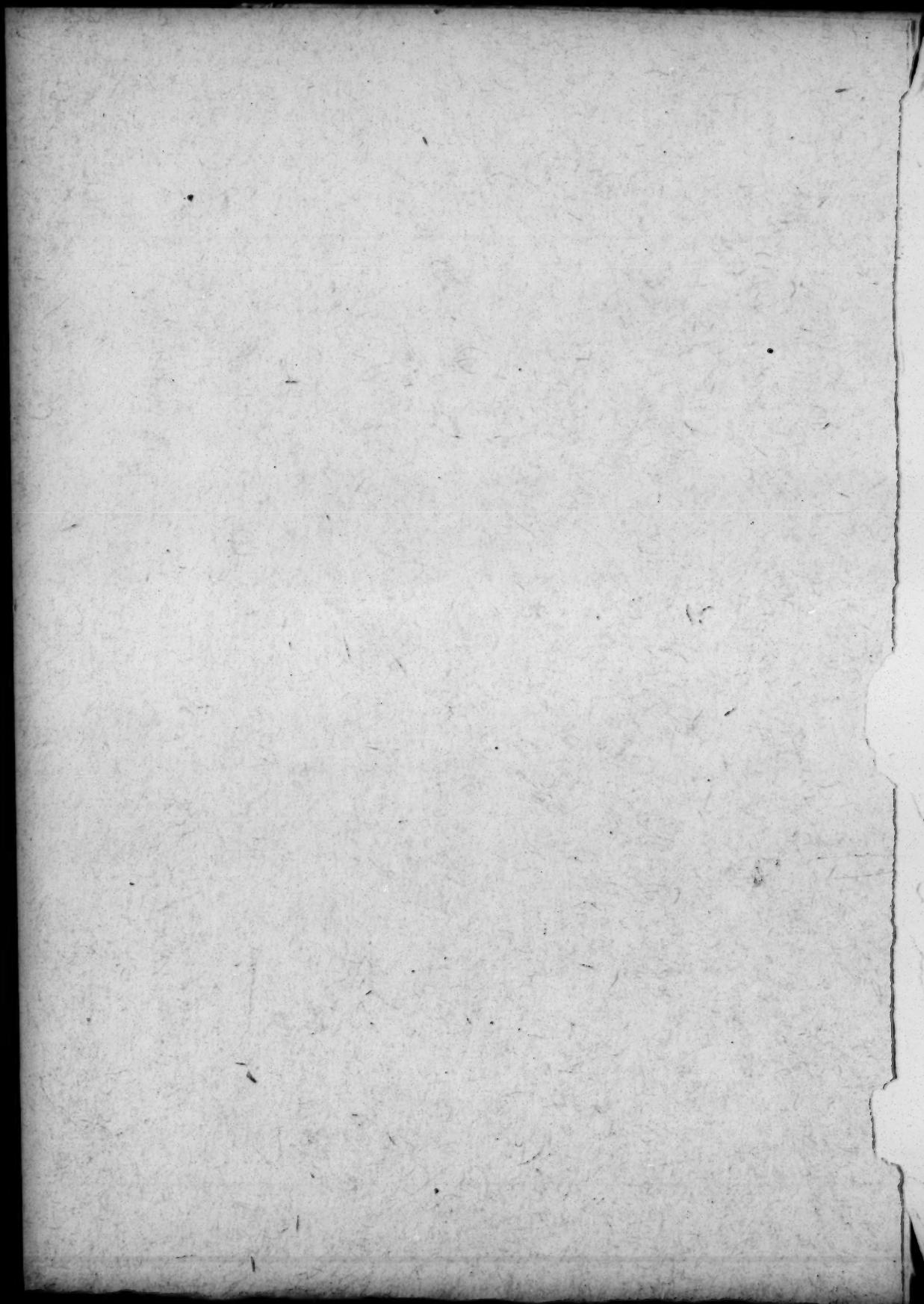
- a Main-top-gallant-mast,
- b Main-top-gallant-lifts,
- c Main-top-gallant-yard,
- d Main-top-gallant-braces,
- e Main-top-mast,
- f Main-top-mast-back-stay,
- g Main-top-sail-lifts,
- b Main-top-sail-braces,
- k Main-top-sail-clew-lines,
- l Main-top-sail-leech-lines,
- n Main-top-sail-bunt-lines,
- m Main-lifts,
- o Main-yards,
- r Main-braces,
- s Main-sheets,
- t Main-tacks,
- u Main-throwls.

Fore-Mast.

- a Fore-top-gallant-mast,
- b Fore-top-gallant-lifts,
- c Fore-top-gallant-yard,
- d Fore-top-gallant-braces,
- e Fore-top-mast,
- f Fore-top-mast-back-stay,
- g Fore-top-sail-lifts,
- b Fore-top-sail-braces,

k Fore-





k Fore-top-sail-clue-lines,
l Fore-top-sail-leech-lines,
m Fore-top-sail-bunt-lines,
n Fore-lifts,
o Fore-yard,
p Fore-leech-lines,
q Fore bunt-lines,
r Fore-braces,
s Fore-leeches,
t Fore-tacks,
u Fore-shrouds,
x Fore-clue-garnet,

Bow-sprit.

a Sprit-sail-top-mast,

b Sprit-sail-top-sail-lifts,
c Sprit-sail-top-sail-yard,
d Sprit-sail-top-mast-shrouds,
e Sprit-sail-top-sail-braces,
f Sprit-sail-top-sail-crow-foot,
g Sprit-sail-top-sail-sheets,
h Horse on the Bow-sprit,
i Standing-lifts for Sprit-sail-yard,
m Sprit-sail-yard,
n Sprit-sail-sheets,
o Sprit-sail-clue-lines,
r Crane-line.



F I N I S.









